The Canadian Medical Association Journal

AUGUST 1954 . VOL. 70, NO. 2

THE INFLUENCE OF RADIUM ON CANCER THERAPY*

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[After paying high tribute to the memory of Dr. Richards, the speaker gave the following address.]

-It is my opinion that radium, in the crude empiric work done before the high-voltage (200 kV) x-ray era, first established beyond question the value of gamma radiation as an agent against cancer. In the 25 years from the early twenties to recently, actual radium usage has been relatively less and more restricted but, nevertheless, it has always stood out as the source of the most effective quality of radiation so far known.

All efforts at electrical production of a better quality of x-radiation have been aimed at equalling gamma radiation. That has now been accomplished with x-rays produced at a level somewhat above two million volts. At about the same time a radioactive isotope, cobalt 60, became available in a practical way, thanks largely to Canadian initiative, as a gamma-emitter in the same general quality range with radium and x-rays at 2plus meV. And, again at about the same time, a review of the radium supplies brought forth the cheerful news that it was possible to assemble an adequate amount of radium element in a single unit to give efficient external irradiations, or as it was formerly called, telecurietherapy.

Thus radium, even though relatively scarce, expensive, dangerous to a degree, and relatively less used after conventional high-voltage x-rays became established across the country, has nevertheless governed the objective of radiation quality, as other and better sources have been

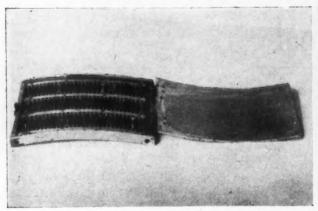
sought either from nature or in the x-ray engineering laboratory. What the ultra high-voltage will produce with the electron accelerators will be answered in the few years ahead of us. We are all intrigued by and intensely interested in the possibilities.

For the present, however, we have reached one milestone. Over a period of 35 years we have come from an era of empiric trial and error in the attempted use of radium for the treatment of cancer, and at a time when we had no effective x-radiation. Out of that empiric effort came the realization that the gamma rays of radium had something to offer. The first high-voltage x-rays at 200 kV were a step in the direction of that better quality of radiation. Now at 2plus meV it is a practical accomplishment. Radioactive cobalt 60, in the production and use of which Canada stands in the forefront, provides a third source of practically equal-quality gamma radiation.

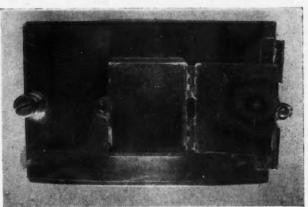
In these years of development, empiricism has given way to scientific accuracy. The treatment of cancer patients today by the best quality of radiations is a procedure requiring the combined efforts of a group of highly skilled individuals each devoted to precision and accuracy in the carrying out of their particular part of the job. We have three sources of such quality of radiations: x-rays at 2plus meV; radioactive cobalt 60; and radium element. Each probably has some special advantage, but essentially they are in the same "quality" class.

The practical question then is—what advantages do these new sources give us? In an attempt to answer that it would perhaps be well to ask first, what do we expect of them, or what should we reasonably aim at? My own visualization of an answer to that would include: (a) Increased curability, with less shock and deforming disability, in the more resistant major groups of malignant diseases; (b) greater long-term palliation; and (c) more effective short-term palliation.

^{*}The Second Gordon Richards Memorial Lecture of The Ontario Cancer Treatment and Research Foundation, delivered before The Annual Meeting of The Canadian Medical Association in Winnipeg, July 18, 1953. †Attending Surgeon: The Roosevelt Hospital, New York, and director of The Henry Harrington Janeway Clinic for Therapeutic Radiology of The Roosevelt Hospital.

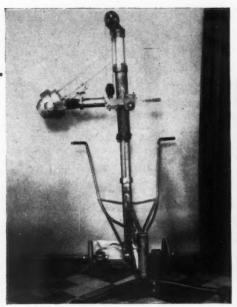


Container open.

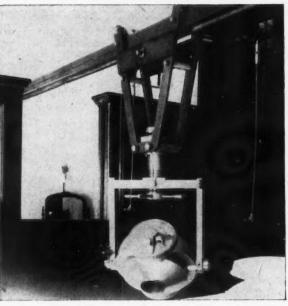


Container closed, with an extra chamber for late arriving contributions.

Original container or "Pack" used to assemble all available radium pieces for external use during night (1916-1920).



Improvised x-ray tube stand used to hold external radium container, after 1920.



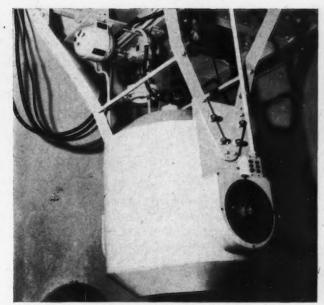
A four-gram Radium Element unit used in either of two treatment rooms. Radium-skin distance 6 to 15 cm. (1927-1942).

Before proceeding to a survey of present-day experience of what may reasonably be anticipated in some of the more difficult cancer problems of the moment and with these new sources of external irradiation, the idea may be occurring in some minds that these high-powered gamma-emitters are wiping most or all of the older conventional types of technical local radium usage out of existence. That is true to a slight degree and we hope that trend will continue (else super-voltage is not justified), but there is still plenty of need for intra-cavity irradiation with suitable small sources and for interstitial irradiation with radium element needles or radon seeds. These are methods of practical clinical accuracy.

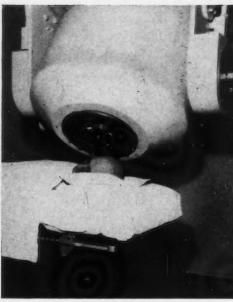
Possibly the day may come when a pencilsized beam from a betatron at anywhere from 20 to 100 meV or more, may do for some of these small local or focal areas requiring local but precision application. It is also possible that some of the rapidly developing radioactive isotopes, such as gold, will do a better job locally by some type of fluid diffusion. But, for these possibilities, the time is not quite yet.

Let us consider briefly our position with some of our more recent unsatisfactorily handled cancer problems of the moment.

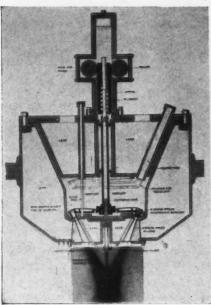
Lung cancer.—There seems little doubt that lung cancer is rather rapidly on the increase. In the past 10 or 12 years, thoracic surgery has made tremendous strides, but it actually does



Fifty-gram Converging Beam Radium Unit at the Janeway Clinic, Roosevelt Hospital.



Beam-head angled with beam directed to treatment zone.



Engineer's drawing of cross-section of beam-head showing proportions of unit, lead protection, mercury pool for turning unit on and off, and convergence of beams.



Schematic drawing to show angulation of beam-head and convergence of 25 beams on area to be treated.

not cure a substantial percentage of lung cancers. I make this statement with reluctance, and almost with apologies to my many thoracic surgical friends. It is my opinion that the thoracic surgeon has plenty, and sufficiently diverse, material in the field of inflammatory diseases to advance and perfect his technical procedures—and where his results are good.

A good many cases of clinical but unproven lung cancer must be explored for diagnostic or other reasons. Some primary tumours can be

eliminated by lobectomy or pneumonectomy. A partially obstructed lung or lobe can be rather simply eliminated—removed—as a source of subsequent infection. Beyond that, however, why explore everything—the already histologically proven case that is rather obviously inoperable, or the questionably operable poor-risk case? Above all why go through the fanciful motions of a mediastinal dissection, with its added shock and increased likelihood of traumatic embolic dissemination, when proper irradiation would

have done a better and safer job on the mediastinum without shock, trauma and increased risk of dissemination?

Someone will probably wish to ask what experience I have had, at first hand, with mediastinal dissections: my answer is "none", except as an observer. But I hasten to add that I have had a very substantial personal experience with surgical dissections in the neck. There, with an operative field at the body surface perfectly accessible and with all technical factors completely under control at all times, a carefully and completely done unilateral "radical" neck dissection requires, in my experience, several hours-four to seven-depending on the size of the neck and possible technical complications of the growth. With this as a background I am not only sceptical, but fearful, of mediastinal dissections and various other advocated dissections aimed at curing cancer through operating at the bottom of a decidedly three-dimensional wound. There are other counts against the wholesale thoracotomy in histologically proven lung cancer.

Even though a safe and relatively simple job in today's surgery, every thoracotomy takes something out of the patient. Every needless exploration in a histologically proven and likely "inoperable" case is a disservice to the patient, it offers practically nothing, but always depletes. There is usually very little conversation about the cases explored and sent along again, but they are worse off rather than aided by reason of the operation.

Those of us who have had experience with the irradiation of lung cancer by a gamma-quality of irradiation, know that we can influence it favourably in the direction of possible long-term palliation. Obviously, distant extension of the disease vitiates any plan of treatment—surgical or radiological—as far as long-term palliation is concerned.

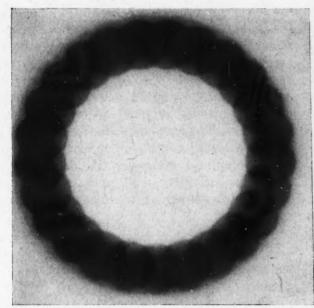
My plea in the lung cancer field is for a more conservative surgical attitude, with reservation of the "radical" effort for the occasional, seemingly truly early case, favourable clinically and technically as far as can be determined. With such an approach, more cases would be put on to radiation earlier, in better general condition because of avoidance of unnecessary anatomical trauma and surgical shock, and without the extra hazard of traumatic dissemination of disease through the motions of a so-called mediastinal dissection.

(Esophageal cancer.-Cancer of the œsophagus has a number of factors comparable to lung cancer. It is practically always capable, however, of histological verification before operative surgical measures are taken. On the other hand, like lung cancer it is, anatomically, in a dangerous area; it is prone to longitudinal metastatic mediastinal node involvement and to early extension to the liver. Most of these cases when seen need, or would be benefited by, a gastrostomy. A Janeway type gastrostomy is a simple, safe, clean, well-functioning procedure. It ensures proper nutrition and relieves the ulcerating growth surface of food irritation. Beyond this, substantial palliative aid can be given by radium beam or cobalt 60 therapy or by super-voltage at or above 2plus meV, especially if the latter is done in conjunction with "rotation." More people get more help for longer time. The very occasional "radical" surgical success is scarcely justification for the leaving of the large majority worse off than if nothing had been attempted.

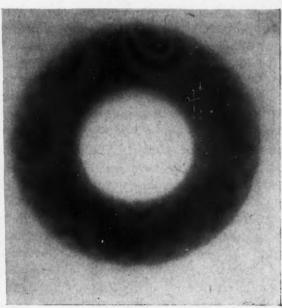
Bladder and prostate.-In cancer of the bladder as well as in that of the prostate, surgical experience is not impressive and those of strong surgical trend are resorting increasingly in bladder cancer to very radical operative procedures. The results are not good enough to warrant, the risk, the discomfort incident to transplanted ureters and the hazards of recurrences. In some careful hands and in the smaller growths radon seeds have proved very valuable. Much more encouraging results are now being obtained by irradiation with one of the gammaemitters. In my department the pattern of radiation distribution from our radium beam unit is ideally suited anatomically to the bladder. Some of our most encouraging results have been with bladder cancer.

Heretofore control of prostatic cancer has been chiefly on a hormonal basis. Now, however, an obvious and histologically proven primary or a locally recurrent prostatic growth will receive prolonged palliative aid not heretofore noted with the range of conventional high-voltage x-rays through 1,000 kV. More real palliative aid begins at the gamma level. This is in conjunction with hormonal aid.

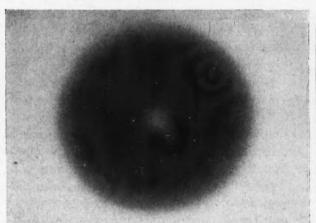
Female pelvic cancer.—The real contribution of gamma-irradiation in female pelvic cancer is by way of control at the lateral borders of the pelvis. It is interesting to observe cases in which radium beam is being used as the sole means of



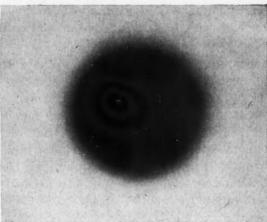
Radiograph of cross-section of 25 individual beams beginning to converge, 14.6 cm. below plane of radium sources.



Converging beams, 19 cm. below plane of radium sources.



Converging beams, 25 cm. below plane of radium sources—distribution of radiation on skin of patient when focus of converging beams is at 10 cm. depth.



Level of focus of 25 converging beams 35 cm. from plane of radium sources; here 10 cm. below surface of skin as shown to the left.

treatment to prove that it can be done. Practically, intracervical and intrauterine radium application is a well-tried and proven technical procedure that should not be discarded.

Breast cancer.—Since MacWhirter has demonstrated the high incidence of internal mammary chain lymph node involvement in breast cancer, primary in the upper inner quadrant and with metastatic axillary nodes involved, a renewed interest has been stimulated in the possible improvement in technical irradiation of the axilla, especially in the apex, the supraclavicular group and the internal mammary chain of nodes. It is my opinion, based on our rather short-term experience (as is true of nearly all "tele-radiation" with gamma-emitters), that we can technically

and efficiently irradiate the substernal zone, as well as the axilla, in curative amounts without unreasonable normal tissue damage.

In some clinics the MacWhirter reports on internal mammary node involvement have led to various radical surgical procedures. In one clinic an ultra-radical breast operation with sacrifice of a parasternal portion of chest wall for purposes of wide dissection of the questionable area has been developed. Various other very radical operative measures are advocated and employed in the same clinic. It is interesting to note that the same clinic is interested in the development of a special psychiatric unit to indoctrinate these patients in the value and acceptability of the ultra-radical and often mutilating operative pro-

cedures. It would seem, at times, that ultramodernism alone defeats itself and proves its own weakness through such complicated efforts. In dealing with serious diseases, nothing so far reassures and comforts the patient as much as the time-honoured, first-hand friendly relationship between that patient and his conscientious physician.

Intraoral cancer.-External irradiation with the type of radiation we have been stressing offers a good deal in certain phases of intraoral cancerin fact all cancers of the upper mucous membrane tract-that have not been satisfactorily handled heretofore. Two problems especially might be mentioned: (1) The metastatic neck that has passed the stage of a simple, favourable, encapsulated node. The better quality of external irradiation may supplant radon seed or radium element needle transfixion. (2) The bone lesions associated with epidermoid carcinoma in and about the mouth would seem, as far as we have observed, to tolerate better and with less damage a tumour-curative level of radium beam irradiation.

Upon more than one occasion we have seen bone regeneration together with regression of the associated tumour of soft parts. The markedly different tolerance of bone to gamma radiation raises the question whether the true highly malignant osteogenic sarcomas might not show a favourable response to this quality of radiation. Unfortunately, we have not so far had an opportunity to try it out.

DISCUSSION

As we note various impressions of the added value of gamma-radiation in external therapy, we must not overlook reference at least to the many radioactive isotopes that are coming into use. It is too early to offer any evaluation on that score, but it is at least fitting that tribute be paid to Canada for the very large part this country has played in the development of isotopes.

In the phase of external gamma-ray therapy that we have been attempting to feature as probably, indeed undoubtedly, offering more than any former quality of radiation in the direction of increased curability, increased long-term and short-term palliation, as well as corresponding lessening of ultra-extensive and mutilating operative procedures, it might be well to con-

sider an appraisal of the benefit to patients on some basis other than the traditional five-year "cure" basis. Those of us who have been dealing exclusively with cancer for a good many years are by no means discouraged; we have seen many improvements and significant advances in therapy. In spite of that, the over-all absolute five-year statistical "cure" rate remains, for all types of cancer collectively, pitifully low. For a strictly surgical appraisal, the three-year and five-year cure rate is all right for the simple reason that the patient is either all right or out of luck.

The benefits of radiation are on a somewhat different basis, one which could be made more understandable by citing individual case examples. A patient may never reach the "cure" stage, yet he may be restored to a comfortable condition, a good sense of general well-being, and be able to carry on his work or business so that life in the family circle goes on fairly normally, comfortably and happily. Whether that state carries on for one or three, or four years, isn't it a worthwhile contribution to the individual and his family in spite of the fact that he was never free from demonstrable disease and that he never reached the five-year mark?

In appraising results in terms of benefits, the ability to live in reasonable comfort, to work, to meet one's responsibilities in the family and in the community, deserves a rating or a consideration that so far has never been accorded as such.

There are many diseases that are never "cured", such as various diseases of the heart and kidneys or diabetes, yet the individuals involved go on, with caution and care, leading reasonably comfortable, useful and worthwhile lives. With the aid of radium, directly or indirectly, since it was the first source of radioactivity proven to exert a profound effect on malignant neoplastic tissue, the control of cancer has in so many ways come to be better managed by sources of radiation, the quality of which was suggested by that of the first source to produce marked tumour tissue regression, and even then those results were obtained on an empiric trial and error basis.

With long, tedious, painstaking work over the years all therapeutic irradiation has been put on an accurate scientific basis. In these developments Gordon Richards played a major role. The quality of the radiation then known to be most

effective is essentially the same as that which pointed the way out of the empiric era of 30 to more than 35 years ago.

The external radiation that gives us most aid today comes from three different gammaemitters: from radio-active cobalt 60, in the development of which Canada and Canadian scientists have played such a large part; from x-rays produced at potentials above 2plus meV; and from radium element. The efficiency of the cobalt 60 radiation and of the 2plus meV x-radiation is enhanced by combining the technical procedure of "rotation". The radium element beam unit, such as used in my department at the Roosevelt Hospital, has its efficiency of depth delivery of the ionizing radiation enhanced by reason of the engineering features of the beam head (or radium container).

A COMBINED PSYCHOSOCIAL STUDY OF SPINAL CORD LESIONS*

E. D. WITTKOWER, M.D., G. GINGRAS, M.D., L. MERGLER, M.D., B. WIGDOR, Ph.D. and MISS A. LEPINE, M.S.W., Montreal

THE LITERATURE on the psychosocial aspects of cord lesions is very limited, only three studies being devoted entirely to psychiatric aspects of paraplegia, those of Nagler,1 Thom,2 and Weiss and Bors.3 Nagler described seven "reaction types": anxiety and reactive depression, psychotic reactions, psychopathic reactions, an indifferent group, dependency reactions, and so-called normal reactions. He considered the quadriplegic group as a separate reaction category. Thom explored the psychology of 109 paraplegic patients. He felt that no psychiatric syndromes in the usual sense of the term were found, although he recognized the presence of feelings of dependence, depression and the existence of autistic thinking. He felt that the reaction to the disability was a function of the general personality structure. Several authors such as Michaelis,4 Kennedy,5 and Guttmann,6 have incorporated a few paragraphs on this subject.

Prior to World War II, 80% of the patients with disabilities similar to those in this study died within the first few months after becoming disabled; another appreciable percentage survived only a few years. Today the mortality has been so reduced that the vast majority live appreciable spans after the onset of the disability. These data suggest that cord lesions are assuming a greater meaning in the field of rehabilitation.

As noted in the Table, there were 10 more civilians than veterans in the group studied; and of the group of 20 veterans, two were disabled during the Korean conflict and a third was recently injured in Canada. This disparity in the group suggests that paraplegia is a disability with as much meaning in times of peace as in times of war.

TABLE

MATERIAL OUR OWN STUDY IS BASED ON EXAMINATION OF 50 CASES OF SPINAL CORD LESIONS.

		Veterans	Civilians
(a)	Number of cases	20	30
	Age group Duration of	,	17 - 68
	disability	6 mos 12 yrs.	1 mo 20 yrs.
(d)	Etiology:		
	 Trauma Chemical 	18	24
	meningitis	2	0
	 Poliomyelitis. Myelitis: 	0	2
	(undiagnosed)	0	3
	5. Tumour	0	1
(e)	Type of lesions:		
	Paraplegia	12	21
	Paraparesis	6	6
	Quadriplegia	2	2
	Quadriparesis	0	1

In the Queen Mary Veterans' Hospital, Montreal, a special centre for the rehabilitation of veteran patients with cord lesions was established in 1944. Later, civilian patients were admitted for treatment. The civilians fall into three categories: those with sufficient means to be admitted as private patients, those sponsored by the Public Charities Act of the various Provinces and those sponsored by insurance companies,

^{*}From the Allan Memorial Institute of Psychiatry, McGill University, The Paraplegic Centre, Queen Mary Veterans' Hospital and the Rehabilitation Centre of the Rehabilitation Society for Cripples in Montreal.

This paper will also be published in French, in L'Union Medicale, August 1954.

Workmen's Compensation Commissions, or private groups or organizations.

The programme designed for the rehabilitation of this disabled group is under the co-ordination of the physiatrist, and stresses multi-discipline teamwork involving the following services: nursing, physiotherapy, occupational therapy, educational therapy, vocational and placement counselling and other medical and surgical consultant services as needed.

Methodology.—The disabled persons were seen by a psychiatrist for an average of five hours, in interviews at depth. A psychologist (B.W.) subjected them to the following tests: Rorschach test, thematic apperception test, level of aspiration test, Rosenzweig picture frustration study, Wechsler Bellevue, Bender-Gestalten, and draw-a-person test. Additional valuable information was obtained from the medical social worker (A.L.), nurses, physiotherapists, occupational therapists, remedial physical training instructor and educational officer. The material was then integrated with the physiatrist (G.G.).

The paraplegics were studied not only in the formal setting of the interview room, but also in the hospital ward, in the gymnasium, at work, engaged in play and occupational therapy, and wherever possible at their homes. Relatives were also interviewed.

REACTIONS TO INJURY

Handicaps.—It may be pertinent at this stage to review broadly the nature of paraplegia and paraparesis. Simply, these are disabilities characterized by complete or incomplete loss of motor power and sensation below a certain spinal cord level. In addition there is total or partial loss of control over bladder and bowels. Genitalia are anæsthetic, and even though spastic erections may occur orgasm is generally absent. Quadriplegia and quadriparesis refer to spinal lesion involving the four limbs.

A rubber urinal which retains the urinary output is worn in the vast majority of cases, but is occasionally capricious and spills its contents. Following rehabilitation procedures there is gradual control over bowel movements; this is obtained by dilatation of the rectal sphincter and massage of the lower abdomen. But this system, like the urinal, is not completely trustworthy, and embarrassing accidents occasionally occur.

Physical rehabilitative procedures may finally allow the mobility of a wheelchair, or a laboured gait with braces and crutches. In a wheelchair, life is filled with difficulties: a curbstone or high stair becomes an insurmountable barrier. The muddy uneven streets of small towns, entering and leaving an automobile, opening a door which sticks, getting into a bath tub, on to a toilet or into bed all become difficult and tedious

procedures, which may cause frustration and anger. The rear burners of kitchen stoves, most shelves, counters and clothes hangers are beyond reach. Many homes, apartments, movies, restaurants, office buildings, factories, schools and universities are inaccessible to paraplegics unless they are carried up the stairs. Such relaxations as attending hockey games, wrestling matches or concerts, shopping or playing a game of bridge are all fraught with immense hardships. Activities which non-disabled persons carry out unthinkingly and casually are for paraplegics painful and difficult both physically and psychically.

Immediate response. - Soldiers and civilians differ somewhat in their immediate response to injury. Soldiers would frequently be forced to remain for hours in the dangerous area in which they were wounded; one lay an entire night, another watched his buddy die with his throat slit. Then, for the soldier, comes the security of the C.C.S. and the base hospital, and for the time being exultation over survival prevails. "I am alive," "I am luckier than the others," he may argue. He may be surrounded by men apparently wounded more severely than he, and he is apt to displace concern about himself on the sorry plight of others. Many soldiers feel a deep bereavement with the separation from their buddies. Without them they feel deprived of an important source of support at a time when they badly need it.

On admission to hospital they lie helplessly and passively in bed. Besides surgery and routine treatments, spinal cord injured are fed and bathed. Bowel contents are evacuated by enemata, and catheters are provided for drainage of bladder content.

Irrespective of whether the injury was sustained in action or by accident, most paraplegics feel, on receiving the injury, that their legs have been cut off. "I had no feelings in my legs," "I thought they were gone," they often said. One said, "It felt as if blood was oozing down my stumps"; others asked if their legs were there. Seeing their legs, and being able to touch them, rekindles hope:-"my legs are still there"- "I will be all right"-"I am intact, I am whole." Denial has begun to play its role; it is usually intense, and a major defence mechanism. It was never seen to reach the degree of anosognosia (denial of existence of disability), but at times it was of a hypomanic nature. This involuntary denial is so intense that, even after neurosurgical exploration

has revealed a hopelessly damaged cord, hope still remains. Several alcoholic blocks, that nullify the chance of recovery, often do not destroy fully the belief that restitution is possible. Not uncommonly, immediately on being injured, there is distortion of the body image. Some men reported that their legs felt swollen or pointed in bizarre directions.

The victims shake their fists in anger at the agencies that have disabled them: they damn the enemy shell, or the pilot of their own plane. They curse a fellow worker, who mistakenly left an elevator door open. Failing to find such direct causality they shriek at fate and question their deity. Conversely they may regard crippling as a punishment for sins and may begin to pray with more ardour. Several intensely religious men protected their ego by saying: "It is all God's will, whatever He does is all right with me." One of the men, a quadriplegic, prayed plaintively for the return of movement to just one hand. Another thanked God for letting him live.

Later responses.—In the early months of their disablement all patients, without exception, showed deep depression. Some hoped for death, though none made suicide attempts. No functional psychoses entered the scene. In only one of the 50 cases was a classical psychoneurosis evolved, and he was one of the few patients in the group who could experience orgasm.

Dreams are either obvious wish fulfilments, or a break through of an awareness of the magnitude of the tragedy, thus allowing discharge of an intense psychic energy. One patient dreamt: "I went to a fortune teller, and she told me my fortune, and charged me 25c, and I said it wasn't much of a fortune"-bringing home to him his misfortune, palpably showing his feelings of futility and his melancholy. Another dreamt: "I was in a wheel chair, and got up and walked, and everyone was happy"-or "I had intercourse with my wife"-or "I could walk." A miner, who had been crushed by a stone, dreamt repeatedly of being in a car crash with the wheel pressing his chest in the same area the stone had crushed. Another dreamt of his legs dropping through a hole in his bed. The connotations here are selfevident. Autism is marked; in their day dreams they walk and dance again and indulge in sexual activities.

As paraplegics, owing to their disability, they are deprived of and barred from many activities which are normal modes of emotional and instinctual expression; an intensification of other forms of obtainable gratifications, associated with a regressive move, seems to occur. The paraplegic may be unable to walk about but he is still able to eat, to drink and to enjoy endless conversations. A majority of the men studied presented upper gastro-intestinal complaints, ranging from dysphagia, borborygmus and cardiospasm to vomiting. How symbolic this symptomatology is, or whether it is an organ neurosis, is difficult to say, in view of frequent neuromuscular distortion of intestinal motility. Let it be said, however, that in many instances these symptoms disappeared following adjustment and rehabilitation to work.

One patient developed voyeurism. This symptom became manifest shortly after he had ceased giving his wife orgasm by clitoral massage. Primitive routes for instinctual discharge are of course the only avenues open.

One must be constantly aware of the addictive propensities of a large proportion of paraplegic patients admitted to a rehabilitation centre; this danger is abetted by the regression and the orality, and is coupled with pain which may be peripheral, central organic or psychic in origin.

Lying in bed for a prolonged period at the beginning, paraplegics are apt to believe this state of helplessness will be permanent and are haunted not infrequently by the fear of being a burden to their loved ones. As a compensatory mechanism to their sense of sexual inferiority they discuss the possibility of giving satisfaction to a woman by a spastic erection.

In the silence of the night a paraplegic may touch his legs gingerly and consider them as foreign—"it is dead" says one. "It is ugly, it is not part of me—cold and dead and not mine," says another. It is exactly as if they wished to pretend that the disabled part was non-existent. This repudiation of useless parts of the body is seen also in an absence of the lower half of the body in a high percentage of figure drawing tests.

As in many other disabled people, particularly the civilian, paraplegics are absorbed by financial worries and a dread of the future, wondering what they can do again. Many are riddled with maddening pain and beset by bedsores; repetitive genitourinary infections are also not uncommon. Some feel they are chattels—"I was taken to a train in a hearse," said one; another was raised into a ship in a cargo net,—thinking, "I am like lifeless cargo, I am inferior." Very few patients

will ask their physician, "How will I be, doctor?"

They know, but do not want to know.

Many a time a person with spinal-cord injury will close his eyes and day-dream of a leg which he can raise—there is no doubt of it—he looks down at the sheets, but the sheets are still. Some say, "It must be a matter of will, for I can move my legs in my head. I will walk some day because I will it." Others may try to conjure up a feeling of erotism; as one patient says: "It is hard to explain, it is like feeling sexy without any feelings, there is no feeling, but the idea is there." Another says, "If God takes away the organ, He should take away the need."

The body image of paraplegics is very similar to that of amputees. However, the amputee is presented with a finality, which is not shared by the paraplegics; visual and tactile afferent stimuli potentiate the body image.

If the feather on a woman's hat is incorporated into the body image, one feels that braces, crutches and wheel chairs can also be. Several paraplegics have said, "I feel poorly dressed if my wheel chair is not clean and shiny." One man painted his braces black saying, "they will be more like the colour of my socks—they will be closer unto me."

Thus far we have dealt with emotional responses to paraplegia in general terms. However, each human being has specific reactions. In each person can be seen an intensification of basic personality structure. A passive effeminate man, who always loved cooking, baking and pottering around the home, now becomes the woman in the house. He is castrated and the role he desired subconsciously all his life can be played now; he says, "If I had more money, I could enjoy my paraplegia." An old alcoholic is placid and happy in an old veterans' home; he is catered to and cared for; he accepts, passively. A young alcoholic sucks more loudly at his gin, as if it were milk, and is bathed and sponged and turned. Another man, a veteran, who has been passive and dependent all his life, stays at home now; never working, he is cared for by his mother as in decades gone by; he says, "I always followed. I did what the others did. Mother knows best. Things are perfect, I am resigned. I accept." Thus in terms of resignation and acceptance of paraplegia the dependent passive character can "readjust" better than others with different personality constellations.

Conscientious individuals have, of course,

reached a higher level of psychosexual and personality maturation and show much more drive in readjusting. They are the ones who have reached consistently higher levels of socioeconomic and marital readjustment.

SOCIAL SITUATION

Hospital.—In the ward the recently injured person at first retreats from other paraplegics, saying to himself, "I am not like them, I am different, I am not a paraplegic, I will get well," and then as time progresses he becomes one of them.

Rumours run quickly through a rehabilitation ward. Patients with experience or junior ward personnel very easily become authorities on the subject of paraplegia. If it is rumoured that pain signals recovery, pain becomes desired and often contagious. A neighbour with pain is envied. The throbbing of a popliteal vessel moves a thigh rhythmically, and the person is exultant for a moment—"my legs are moving." Paræsthesiæ are loved things at first; they have entered the void of sensation, they are feeling, and they must mean recovery.

In keeping with the state of helplessness, the concurrent regressive move and the hope for recovery, there is a tendency on the part of the disabled to endow their doctors with magic powers. However, as in bygone days, there are also negative elements in the relationship to the specialists in physical medicine and rehabilitation.

Fellow paraplegics in the ward are siblings; they speak of each other as "the boys." If a demand is made with reference to a new feature on a wheel chair, the demand spreads like ripples in a pond; the next day half of the group want the same article. Incessant demands are made on the physiatrist; he is asked to give, give, and is both loved and hated at the same time, like a parent.

The doctor may have been badgered about an early discharge from the hospital, but when the actual date of departure arrives, an attitude of intense fear may prevail. At the hospital, they live in an atmosphere of safety and security; medical help is available at all times; life is relatively easy and one has the advantage of living in a community of fellow sufferers. Outside, of course, a person in a wheel chair may be stared at, held up to ridicule or shunned. The first contact with the family is dreaded as, consciously or unconsciously, the same questions harass every prospective dischargee: "Will I be loved and ac-

cepted, will I be cared for, or will I be hated and rejected?"

Family.-A crippling disability such as that caused by paraplegia affects families in various ways. It may lead to dislocation of the family, and may give rise to economic hardships and many deprivations. It often places burdens and unexpected responsibilities on other members of the family and it is apt to upset the emotional balance of the group.

Many paraplegics are forced by their disability to leave their home town or village, and to move to larger centres where adequate medical and surgical care is available and where it is possible to be swallowed up by anonymity. There they tend to remain, on the rational grounds that suitable housing and employment facilities are more likely to be found in big towns than in small communities, and motivated by the unreasonable hope of having repaired what cannot be repaired. This dislocation and resettlement comes about at a time when, owing to the paraplegic's handicap, his earning capacity is very often considerably reduced. Consequently a lowering of economic status and a redistribution of the respective roles of each member of the family are almost unavoidable. The wife may be compelled to find a job, and children of adolescent age may have to leave school and abandon professional aspirations. The result is not only a transient disorganization of the family, but a lowering of prestige of the disabled person when it needs bolstering up. As one of them said, "My wife is the man in the house now."

Helplessly from his bed or wheel chair the paraplegic views all these changes. He would like to do something and to be somebody, but instead he has to have things done for him. Some paraplegics endure this state of affairs, or at least put on fortitude; others, very few indeed, revel in it almost voluptuously; while still others, displacing resentment at their condition on to their environment, stir up the glimmering sparks of concealed hostility by their irritability.

The transformation of an active and productive individual into a helpless invalid emotionally affects the whole family. Their first response is of course one of loving kindness, consideration, solicitude if not of over-protection. But as time goes by and especially if rehabilitative efforts have failed, a note of resentment, still well concealed, may creep into the relationship.

Most women stood up well to the strain im-

posed on them by their husbands' disablement. They attended to their husband without overdoing it, reassured him as much as they could about his sexual dysfunction, and cared for the children to the best of their ability. But for some of them the strain was obviously too much. One wife died under bizarre circumstances, presumably having committed suicide. Another underwent abortion in the seventh month of pregnancy and then divorced her husband. There was another divorce and two more separations in this series. Still another wife became an alcoholic and promiscuous after her husband's disablement.

Equally the parent family may be affected. One paraplegic's mother died of shock upon hearing the news of her son's injury; another developed severe asthma subsequently. The father of a young paraplegic, always an alcoholic, plunged deeper than ever into alcoholism after his son's injury, and later the mother started to suffer from vomiting without discoverable organic basis. She is a tense and irritable woman. Angrily she sobs out, "I want my boy to die"; the father says of his son, "He is a hard one to kill. A tough one."

Society at large.—Our society does not receive disabled persons in its midst with open arms. They are felt-and often are-a burden to the community, and arouse by their very presence feelings of guilt in the fit because the latter are in a more fortunate position. Hence, society is apt either openly to ostracize its crippled members or, by way of overcompensation, to pamper them often in a maudlin manner.

Both attitudes were experienced by the paraplegics studied. People may stuff cigarettes into their hands, may force money upon them, or may offer help which is not needed. Conversely, instances have been related of persons expressing undisguised horror, and of restaurant owners, theatre attendants, taxi drivers or prospective employers turning them rudely away.

Between these two extremes are, of course, muted versions. One employer, loved and eulogized by several rehabilitated paraplegics, adopted this attitude: "Listen, you bastard, I'm not giving you a job out of pity, but because I think you'll be good at it. No good - and out you go. And I'll build you a ramp so that you can't bitch about being late for work."

The paraplegics, as many other greatly disabled individuals know, sense or at least suspect that they will not be welcomed on return to society. Some of them successfully, others pathetically try to break out of the closed circle of fellow paraplegics. "I must seek friends amongst the well and be accepted by them," one of them said, "I hate this strange society of cripples, I want to be normal. I will take off the sign on my car which indicates that I have hand controls: I will remove every special device from my house which may identify me with cripples. I will move the wooden ramp over my front steps to the back of the house, away from the prying eyes. I will have social gatherings from which disabled people will be barred. I hate this minority." Still others, a majority, withdraw into the ingroup of fellow sufferers and seek solace in their common plight. As another said, "In front of paraplegics I can crawl if I want to or wet my pants. They understand; they accept me, I am them and they are myself."

OCCUPATIONAL AND ECONOMIC SITUATION

Of the veteran group of 20, nine are not engaged in gainful employment. Of these nine, two are quadriplegics; one has severe complications of paraplegia and three recent cases (two Korean War casualties and one Service injured in Canada) are still undergoing active hospital therapy. The three remaining veterans, who are not working, are passive dependent persons.

Those who have returned to work are predominantly of the conscientious variety. Three of them returned to their previous sedentary occupations (clerk, machinist, student). Of the remaining eight, one was a chauffeur who now functions as the superintendent of an apartment; another, a soldier in the permanent forces, has been retained as an army instructor; a third, also a soldier in the permanent forces, now works as an electrician; a fourth, previously a metal worker, is now a ledger keeper; a fifth, previously an insurance inspector, now holds an administrative job. Two others, formerly unskilled labourers, are now in minor executive positions. The eleventh, a student before joining the armed forces, has now become a notary.

Of the 30 civilians in the study, 24 are unemployed. In this group of 24, two are quadriplegics, five have severe medical complications, and 14 are still undergoing active hospital treatment. The remaining three unemployed civilians are passive dependent individuals. Of the six employed civilians, three have returned to school.

The fourth, a former jockey who earned an average of \$8,000 a year prior to his accident now earns a modest \$300 a month as the operator of a garage. The fifth who earned \$200 a month in construction prior to his accident, now earns \$65 a month operating a small grocery store; the sixth has returned to his trade of electrician and earns a salary commensurate with his pretraumatic earning power. In none of the men have new creative skills been developed.

If we can extrapolate socio-economic status in time and space, the group as a whole has drifted lower socio-economically. Even the ,veterans who receive an average of \$250 per month pension (income tax free) and certain additional benefits, would have earned infinitely more had they remained well.

PRACTICAL APPLICATIONS

Paraplegics present considerable surgical, emotional, social, occupational and economic problems. In the preceding sections, special emphasis has been placed on their emotional difficulties in accordance with the special aim of this study.

1. As its outcome a plea may be made for the employment of psychiatrists in the rehabilitation of paraplegics and of other severely disabled persons. Each paraplegic should be given at least one interview. Psychotics and persons with severe personality deviations should be screened from intensive and expensive physical rehabilitative procedures. In this series one psychotic and two alcoholics were discovered; one patient with severe mixed psychoneurosis was referred for individual psychotherapy.

The psychiatrist could catch a glimpse of the unconscious meaning of the physical defects and help in the total rehabilitation programme. Thus, a previously passive, latent homosexual with marked dependent trends can hardly be expected to function as an active, aggressive male just because he has been paralysed from the waist downwards. Secondary gains could be clarified. The interview with a psychiatrist should aim also at an abreaction of the intense affect that is bottled up. A discharge of sadness has consistently been found to be of therapeutic value.

Routine individual psychotherapy is not indicated, nor is it feasible at a practical level; rather, group sessions may be included in the paraplegics' total treatment; these would include didactic, directive techniques, as well as non-directive ones. These group sessions may be

extended to members of the staff (physiotherapists, occupational therapists, nurses and orderlies) with the aim of bringing into their awareness some of the psychodynamics of those under their care.

Group therapy for next of kin seems to be of value with the treble purpose of helping them to understand the needs of the disabled person, of ventilating their own feelings of resentment, and of relieving their feelings of guilt.

2. The ward group should be as homogeneous as possible. Heterogeneity in age, ethnic derivation, social standing and predominant interests prevents a tightly knit in-group. In particular, children should be amongst children because their already distorted maturation becomes even more warped living so intimately with adults.

3. The paraplegic must accept reality. Stress should be placed on his assets rather than on his defects. In the hospital, occupational therapeutic measures should allow instinctual and emotional discharge through remaining channels, and should give the disabled person a sense of usefulness and value. Occupational therapeutic measures should, wherever possible, be prevocational and not diversional. Again, in the pre-vocational sphere, the psychiatrist's interview and personality appraisal may be of value.

4. The pre-traumatic occupation and employment record are, of course, essential in assessing post-traumatic employability, vocational counselling and actual placement. It appears almost platitudinous to state that sedentary workers are more easily returned to working level than manual workers. For obvious reasons manual workers prevail among peacetime paraplegics. In the series studied, the vast majority had been engaged in work necessitating a great deal of physical exertion, such as bush worker, unskilled construction worker, heavy welder, and railroad yard man. Naturally, any post-traumatic training should take into account any dormant aptitudes towards sedentary work.

5. A paraplegic, it is felt, should not be allowed home until he can dress himself, care for his bladder and bowels, and until his home is architecturally ready to accept him. Sending a man home, helpless, into a frustrating environment increases his feelings of uselessness and dependency, and augments the anxieties and hostilities of his family. His discharge from the hospital should be a gradual one, with increasing duration of trial periods at home.

6. Crutches and braces should be reserved for paraplegics with low level lesions. Only one man in a wheel chair, the only one whose sexual function was not seriously impaired, desired crutch walking. "Walking" for the average paraplegic is a slow laborious procedure, involving considerable physical exertion. It enhances the chances of falling, of fractures of osteoporotic bones and of urinal spilling; hence the preference of most paraplegics for the wheel chair. It is obviously much easier for a fit person to identify himself with the paraplegic's wish to walk than with his dread of walking. Moreover, ability to make the lame walk pleases the doctor. One may well wonder how often exaggerated rehabilitative measures have been designed for a gratification of the needs of the doctor rather than of those of the disabled.

(7) There are two groups of individuals with cord lesions in whom expectations of vocational rehabilitation are minimal: quadriplegics and those with almost intractable complications of cord injury. All that can be expected in most of these cases is to induce them to accept the reality of their serious handicaps, and to live with them as best they can.

8. Lastly, great efforts should be made to emphasize-and to publicize-the need for early and adequate treatment for persons with cord injury. A fair number of the men in this series had been unaware of the highly evolved facilities of the available paraplegic centres and had spent years at home in outlying districts locked away from the world before treatment was instituted.

SUMMARY

1. A brief survey of the existing literature is summarized, and the purpose of this study is outlined.

2. The reactions of paraplegics to their disability are outlined under the following headings; (a) handicaps; (b) the immediate response to injury; (c) later responses.

3. The social situation is incorporated into the study under the following sections: (a) hospital; (b) family; (c) society at large.

4. Some practical conclusions are drawn.

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EFFECTS OF LARGACTIL IN MENTAL SYNDROMES*

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FOLLOWING the investigations of Laborit and his collaborators10, 11 on "hibernation" and the observation that Largactil (a phenothiazine compound also called chlorpromazine) was the most important drug for facilitating this procedure, Delay and his associates4,5 utilized this substance in the treatment of mental syndromes. Their working hypothesis was based on the particular physiological effects of Largactil on the vegetative nervous system. They noted "interesting therapeutic and biological results" in 90% of the treated cases, particularly in excited states. They noted that often following the first injections an agitated ward was transformed, and also claimed very encouraging results in different types of mental illnesses. Lehmann and Hanrahan¹² were the first to use Largactil in North America. They confirmed the observations of the French authors and found the drug to be more or less specific in the treatment of excited states, particularly mania.

To evaluate the action of the drug on mental syndromes, we started its administration shortly after Lehmann and Hanrahan.

Метнор

One hundred non-selected patients, ranging in age from 17 to 75, received Largactil orally in dosage ranging from 150 to 800 mgm. per day for a period of three to four weeks. (After seven months of study we have been using smaller doses, not more than 500 mgm. daily). All cases were followed up for from three to seven months. It should be noted that almost all psychotic cases were either of recent onset or of recent remission. Blood pressure was charted three times daily with the patient in the sitting position, and weight once daily. All patients remained ambulatory, and 25% of cases, mostly of anxiety state, were treated on an out-patient basis. We did not find bed rest to be necessary, as was recommended by other authors. Special studies were undertaken, with use of Largactil intravenously, of blood count, electroencephalographic changes, and confusional states after electrical shock. In the first 50 cases, except for routine blood chemical studies, no detailed analysis of liver functions was made. In the last 50 cases liver function tests (cephalin cholesterol flocculation, thymol turbidity and flocculation, alkaline phosphatase, bilirubin, cholesterol, urobilinogen, and bile in urine) were systematically carried out.

In 50% of cases other somatic treatment was instituted when no significant effect appeared within a few days, particularly in schizophrenics and manic-depressives. Our experience with Largactil had demonstrated that any definite favourable effects occurred within the first few days, so that the intervention of the above treatments should not invalidate the final results. (French authors have also emphasized that the action of the drug appears within the first 24 hours).

GENERAL PHYSIOLOGICAL EFFECTS

Largactil is a phenothiazine derivative. Its chemical constitution is 3-chloro-10-(3-dimethylaminopropyl) phenothiazine hydrochloride. It is predominantly a sympathicolytic and neuroplegic substance with a remarkable hypometabolic effect.¹⁰ It is hypothermic, antiemetic, slightly vagolytic, and hypotensive, and is also a respiratory stimulant. The hypotensive effect is due primarily to the ganglioplegic influence of the drug; there is an associated peripheral vasodilatation, which in the standing position may cause a significant drop in blood pressure. It also has a marked potentiating effect on barbiturates. Its central action could be interpreted as a "sympathetic interruption between cortex and diencephalon, realization of a sort of pharmacological lobotomy (Lassner), provoking a soothing effect on the cerebrum."3 This, however, still remains a hypothesis.

In our experience, Largactil has shown moderate hypotensive effect; in 90% of cases there was an average fall in blood pressure of 10-30 mm. systolic and 10-20 mm. diastolic within the first 24 hours, but marked fluctuation in blood pressure was not uncommon. There was a partial return to the previous level of pressure, particularly in young people, but usually it remained low with occasional fluctuation, frequently in the direction of decrease. Ten patients had a low enough pressure to develop relative circulatory collapse while standing. In all these cases the re-establishment of the supine position was enough to adjust the circulation; however, the danger of fainting and sudden collapse, which

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some patients experience upon suddenly getting up, should be emphasized. In two cases of persistently low blood pressure, the concomitant administration of Methedrine by mouth caused the pressure to return to normal limits. A relative hypothermia was noted in a few cases. Apathy, much emphasized by Lehmann and Hanrahan, was noted in only 10% of cases. Many times it was difficult to distinguish between a somnolent state and an apathetic state. Seventy per cent of cases showed an increase in appetite and gained weight. No vomiting or gastro-intestinal complaints were recorded. The potentiating effect of Largactil on barbiturates was found most useful in connection with prolonged sleep treatment. Largactil allowed a reduction in the barbiturate administration of 25 mgm. If the patient was kept awake by talking, no changes occurred in the tracing. If drowsy or asleep the usual electroencephalographic sleep patterns became manifest, but disappeared the moment the patient was awakened. In all 10 cases no specific effect was noted on the electroencephalogram. This is in contrast to the effect of the barbiturate on the electroencephalogram which, in addition to sleep pattern, provokes a burst of fast activity.

Forty-four cases of different neuroses, 27 of schizophrenia, 25 of manic-depressive psychoses, one of paranoia, and three miscellaneous cases were treated (Table I).

Results in neurosis. - This included anxiety and anxiety hysteria, neurosis obsessive-

TABLE I.

RESULTS OF LARGACTIL THERAPY						
Diag	mosis	Number of cases	No improvement	Moderate improvement	Marked improvement	
(1)	Neuroses:					
	Anxiety neurosis and anxiety hysteria	27	7	4	16	
	Obsessive-compulsive	5	5			
	Borderline mixed psychoneuroses	4	4 .			
	Character neuroses	3	3			
	Drug addiction	4		4		
	Psychical torticollis.	1		1		
2)	Schizophrenia:	,				
	Hebephrenia	3	3			
	Paranoid	22	12	10		
	Postpartum	2	2			
(3)	Paranoia	1		1		
(4)	Manic-depressive psychosis:					
. ,	Mania	5	2		3	
	Depression	15	12	3 .		
	Agitated depression	5		4	1	
(5)	Miscellanous:					
-/	Hypomanic state in senile dementia	1			1 -	
	Depression in an epileptic	î	- 1		•	
	Huntington's chorea	î		1		
	Total	100	51%	28%	21%	

intake and a smoother course of sleep. No significant changes could be detected in blood chemistry. In order to evaluate the effect of the drug on blood count, intravenous Largactil (25 mgm.) was used and blood counts were taken before its administration and half an hour, one hour, and two hours later. In five cases a slight fall in lymphocyte count was observed in the first half hour, Eosinophil counts judged from this test and other routine tests did not show any significant alteration.

The effect of Largactil on the electroencephalogram was studied in 10 cases by intravenous

compulsive neuroses, character neuroses, borderline cases, and addictions.

Anxiety states.—Twenty-seven patients suffering from anxiety states received Largactil in an average daily dose of 300 mgm. for an average period of three weeks. In seven cases there was no change; in 20 cases there was moderate to marked improvement; the marked improvement category consisted of 16 cases. The reduction of anxiety was experienced as a relief of tension, relief of feeling of contraction, better ability to "think", decrease in objective signs of anxiety and tremor, a feeling of well-being associated

with gain in weight, resumption of normal sleep pattern, and an increase in working capacity. But the reduction of anxiety appeared permanent in only five cases; in all other cases the anxiety and other associated symptoms returned on an average of seven days after the cessation of Largactil, and usually with much greater intensity. No particular differences were noted in regard to anxiety hysteria or anxiety neurosis.

The general impression was that Largactil, in the majority of cases, was helpful in decreasing and relieving anxiety; it broke the vicious circle of autonomous anxiety,² and allowed a more rapid psychotherapeutic evaluation and management of the case. Patients with the aid of this drug were more rapidly encouraged to work efficiently in psychotherapy.

Obsessive-compulsive and borderline psychoneuroses.—In five cases of obsessive-compulsive neurosis no particular change was attributable to Largactil. Four cases of mixed psychoneuroses, with a borderline picture, were treated with an average dose of 400 mgm. daily for three weeks with no improvement.

Addiction.—Two cases of alcoholic addiction, one case of heroin addiction, and one case of demerol addiction were treated with similar dosage. In these four cases of addiction a moderate reduction of tension, increase in capacity to work, with improvement of appetite and gain in weight were observed. However, further psychotherapeutic measures were found to be necessary for maintenance of improvement and readaptation of these individuals. Largactil in these cases of addiction served only as an adjuvant, like most other somatic means in this domain.

Torticollis.—Lastly, one case of definite psychical torticollis was treated with 200 mgm. Largactil for 12 days, and showed moderate improvement. Because of the development of a syndrome resembling Parkinsonism, the drug was discontinued.

Schizophrenia.—Twenty-seven cases of schizophrenic reactions were treated with an average dose of 400 mgm. Largactil daily, for a period of 21 days. In three hebephrenics no changes were seen. In 23 paranoids, 10 of whom manifested marked anxiety, tension, impulsiveness, and agitation, moderate improvement of these symptoms occurred, associated with gain in weight and readjustment of sleep, so that management was much facilitated. Hallucinatory phenomena

were most marked in one schizophrenic: they were unaltered after electric shock and insulin coma, but disappeared quite rapidly during Largactil administration, and did not return.

Two cases of postpartum psychosis (schizophrenic type) did not improve under Largactil. In this connection it should be noted that in one case of classical paranoia with marked tension and nervousness, 150 mgm. of the drug daily provoked a remarkable reduction of these symptoms within four days, making the environment more pleasant, although there was no improvement in the delusional system.

The general impression was that in some markedly tense and anxious schizophrenics with or without excitation, Largactil was useful in provoking a sense of decorum; this facilitated ward routine and prepared the patient for other somatic treatments.

Results in manic-depressive psychoses.—Fifteen cases of depression, five cases of mania, and five cases of agitated depression were treated with an average dose of 400 mgm. daily of Largactil, for an average period of three weeks.

Among the depressive patients only three who were quite tense and anxious were moderately improved; this was associated with gain in weight, resumption of the pattern of sleep, and increased capacity to work. All the symptoms recurred a few days after the cessation of the drug. Of five patients with mania, three markedly improved, one of whom is still in remission after seven months and two after two months. In two other patients with classical signs of mania, Largactil was pushed to the upper limit of tolerance, and although the patients were almost asleep because of reduction of motor excitation, the ideational excitation was unchanged on close examination. For this reason electric shock therapy had to be administered, with dramatic response. The combination of Largactil and electroshock appeared clinically to have had better effect than either used alone.

In five cases of agitated depression, the agitation subsided moderately while the patients were taking the drug. The agitation returned from two to five days after the cessation of treatment, and electric shock had to be administered.

The general impression was that in mixed forms of manic-depressive psychoses particularly associated with anxiety and tension, the effect of Largactil was palliative, and potentiated the electroshock effect. In pure maniacal states, the series was too small to pass definite judgment, but in general the results correlated with those of Delay *et al.*, and Lehmann and Hanrahan.

Miscellaneous.—In this group, one case of senile dementia with hypomanic state responded quite well to 600 mgm. Largactil daily, and the excitation considerably decreased. An epileptic with an atypical depressive state did not respond favourably. Finally one case of Huntington's chorea in a 65-year-old woman responded moderately well to 400 mgm. Largactil daily. The choreic movements re-appeared after the cessation of the drug, were resistant to a second administration, but responded again moderately well to the third administration of the drug after one week's rest period, and have remained in abeyance.

Largactil in post-ECT confusional state.—Study of the effects of electric shock on the brain often indicates the role of vascular responses in the form of changes of blood flow,1,9 capillary hæmorrhages,8 vasoconstriction, and vasodilation.7,9 Largactil possesses a reducing effect on tissue oxidation, and diminishes capillary permeability in addition to its neuroplegic effect. Thus it was presumed that the drug by reducing the vascular response might reduce disturbances after electroshock, and diminish whatever is responsible for post-electroshock confusion. Seven cases in which the first indication of confusion had appeared after their last electric shock were chosen. Largactil was used in doses of 25 mgm. intravenously immediately prior to the administration of electroshock, and in two cases before and after. No beneficial effects were observed, and the degree of expected confusion did not change; in one case the confusion became quite considerable and was out of proportion to age or clinical status. It was felt that the results were not significant enough for further inquiry.

Complications. — In addition to the general effects of the drug, the following complications were observed in the 100 cases:

Maculopapular rash	5 cases
Parkinson-like syndrome	4 cases
Jaundice	5 cases
Hepatic dysfunction without jaundice	3 cases

Total number of complications: 17

The cutaneous allergic manifestations cleared up within a few days after the cessation of the drug. In four cases a syndrome resembling

Parkinsonism appeared about the twenty-first day. The syndrome consisted of generalized cogwheel rigidity, tremor, mask-like facies, and marked motor retardation. In one case a transient syndrome, of a few days' duration, occurred in a psychical torticollis after partial correction of the torticollis; in the other cases the syndrome gradually disappeared within two months. Electroencephalography in all these cases did not show any abnormalities.

Important among the complications were those associated with hepatic dysfunction. Deniker⁶ in about 450 patients treated with Largactil did not find any instances of liver damage. Lehmann and Hanrahan in 71 patients had three with jaundice, which appeared on the second, third and fourth week of treatment respectively; this subsided in 10 days with supportive dietary measures. In the present 100 cases there were eight of definite hepatic damage, five of jaundice, two of only clinical signs of liver involvement (hepatomegaly, tender liver, fever), and one with laboratory evidence of liver dysfunction but no clinical signs. Among the patients with jaundice, three recovered within five weeks: one has remained jaundiced after two months, and another after seven months. It was noted that in all cases the jaundice appeared from the seventeenth to twenty-first day after the beginning of treatment, while other symptoms occurred in an irregular manner from the tenth to the thirty-third day after Largactil therapy. Clinical and laboratory findings indicated a type of obstructive jaundice (cephalin cholesterol flocculation, thymol turbidity and flocculation remaining normal throughout, but alkaline phosphatase, bilirubin, cholesterol, and urobilinogen values became altered). It should be emphasized, however, that these five cases of jaundice appeared when a mild epidemic of infectious hepatitis was noted in the community. There have been no cases of jaundice since that period but cases of liver dysfunction without jaundice have occurred, which raises the possibility that a toxic effect of Largactil on the liver may sensitize this organ to further damage, viral or otherwise.*

As in other complications the dosage of the drug did not appear to have any particular influence in determining the hepatic damage. In one case jaundice developed with a minimal dose of 75 mgm. and in another with 800 mgm.

^{*}Since this article was written, there have been three more cases of jaundice and four more cases of liver dysfunction without jaundice.

COMMENT

The general impression drawn from these observations is that Largactil, although not a "wonder drug," appears to be a useful therapeutic tool in the management of some mental disorders. The investigations of other authors has shown that the major therapeutic indication for the drug is in excited states, particularly of maniacal type. Our observations in maniacal states are small, but they confirm these results to some extent. In other excited states the excitation returned shortly after the drug was eliminated. This held true for qualitatively similar states of anxiety and tension, where the drug had often a favourable influence. Largactil was found to be of great use in promoting a more rapid psychotherapeutic evaluation, due to its tension reducing capacity, and was useful as an adjuvant to these therapies. It is felt that if the drug had not been discontinued so abruptly for experimental purposes, and if maintenance dose had been instituted, a more permanent reduction of anxiety would have been observed.

The importance of the diencephalon in most states of tension had long been postulated. Lehmann and Hanrahan attributed the inhibitory effect of Largactil to its influence on the reticular system. It is difficult to understand how a substance affecting this system can leave the cortical action potentials intact. In our study of the effect of intravenous Largactil on the electroencephalogram, no alteration could be detected, and the drug had no influence on the effect of Sodium Amytal on the electroencephalographic tracing. A general hypothesis concerning the location of the action of this drug cannot be put forward at present; moreover, topological tendencies are more likely to fail than functional-relational ones. From a functional point of view it may be that Largactil interrupts a pathological pattern of events at the point of intensification and rise of tension, be it anxiety or excitation. Here the concept of causality is interpreted in terms of "event-sequences" rather than determined by specific and fixed causes.2 If a pathological eventsequence has at one point of its evolution anxiety or excitation which helps to perpetuate or to maintain that sequence, it may be assumed that by the inhibition of this anxiety or excitation one can interrupt the continuity of the pathological chain of events. Once the chain is broken, be it permanently or temporarily, further intervention with somatic or psychological means may help the readaptation and normalization of the remaining sequences. Largactil, in cases where it is effective, might possibly accomplish such an action. Largactil may similarly serve as an effective agent which disrupts a pathological sequence of events, and in so doing, modifies the intensity of the anxiety and excitation which has been prohibiting therapeutic progress. At this stage other psychogenic and somatic adjuvants may then be able to contribute to recovery.

SUMMARY

1. One hundred unselected patients with mental syndromes (Table I) were treated with an average dose of 400 mgm. Largactil daily, for an average period of three weeks.

2. General physiological and pharmacological effects of this new sympathicolytic neuroplegic

substance are discussed.

- 3. In 75% of neurotic anxiety states there was moderate to marked improvement. In 70% of cases the anxiety state returned shortly after the sudden interruption of Largactil. A more gradual termination might have had a more lasting effect. No favourable response was noted in cases of obsessive-compulsive and mixed borderline psychoneuroses. Favourable effects were seen in cases of drug addiction.
- 4. In all non-excited schizophrenics, no particular effect was observed. In all excited, impulsive, tense and anxious schizophrenics, a moderate reduction of these symptoms appeared, associated with better ward behaviour and socialization.
- 5. Out of five patients with mania, three recovered totally but two remained partially refractory and had to receive electroshock. In five cases of agitated depression and three of very anxious and tense depression, moderate improvement was noted while the patients remained on Largactil. The symptoms returned after the cessation of the drug.
- 6. A patient with a hypomaniacal state in senile dementia recovered under Largactil, and one case of Huntington's chorea responded well so far as the reduction of movements was concerned.
- 7. Complications were observed in 17% of cases: five cases of maculopapular rash; four of Parkinson-like syndrome; eight of toxic hepatitis. The appearance of cases of jaundice was concomitant with a mild epidemic of hepatitis within the community.

8. The theoretical aspects of Largactil therapy are briefly discussed.

The authors acknowledge their gratitude to Professor D. E. Cameron, for his guidance in the research project and his continual constructive suggestions.

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RÉSUMÉ

Cette étude rapporte les résultats obtenus avec l'emploi du Largactil chez les malades mentaux. Cent sujets recurent des doses variant de 150 à 800 mgm. par jour, pendant trois à quatre semaines. La pression artérielle

fut suivie de près dans tous les cas, et les épreuves fonctionnelles du foie furent pratiquées dans la moitié d'entre eux. Les résultats, lorsqu'il y en eut, se manifestèrent dès les premières 24 heures. Le Largactil est un sympathicolytique et neuroplégique possédant un effet hypométabolique remarquable. Dans 90% des cas étudiés ci-haut, la tension artérielle baissa de 10 à 30 millimètres systoliques, en moyenne. Cette baisse put être contre-balancée par l'administration orale de méthédrine. En plus d'une certaine somnolence difficilement distinguée de l'apathie ainsi qu'une augmentation de l'appétit, l'effet le plus utile du Largactil sembla être sa capacité d'augmenter l'effet des barbituriques. Aucune anomalie de l'électro-encéphalogramme ne fut observée. La majorité des états d'angoisse traités au Largactil accusèrent une amélioration sensible, mais temporaire, leur permettant de recevoir la psychothérapie avec avantage. Les états compulsifs et les psychonévroses frustes ne montrèrent aucune amélioration. Dans deux cas d'accoutumance, le Largactil sembla ne jouer que le rôle d'un adjuvant utile. Une amélioration fut aussi observée chez les schizophrènes et chez les paranoiaques dont la surveillance devint moins onéreuse. Trois maniaques d'une série de cinq montrèrent une amélioration; la combinaison Largactil-électrochoc donna des résultats fort impressionnants. Aucun résultat ne fut obtenu dans les états de confusion suivant les électrochocs. principales complications furent des éruptions à caractère maculaire et papulaire, syndromes parkinsoniens, jaunisses et troubles hépatiques. (Une légère épidémie d'hépatite infectieuse régnait à l'époque où ces observations furent faites.) L'importance du Largactil en médecine mentale réside dans sa faculté de supprimer ou d'amoindrir la tension et l'angoisse.

MEDIAN NEUROPATHY IN THE CARPAL TUNNEL

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RECOGNITION that motor and sensory symptoms not uncommonly arise from "spontaneous compression" of the median nerve as it lies in the carpal tunnel has been long delayed. As a clinical entity it is still not widely appreciated, a point of some importance because section of the transverse carpal ligament, a simple procedure, dramatically relieves the most annoying subjective sensory disturbance and often restores motor function. The median nerve as it approaches the hand occupies the restricted space of the carpal tunnel along with the tendons of the long flexors of the digits. The nerve lies superficially immediately beneath the transverse carpal ligament which forms the roof of the tunnel, the carpal bones comprising the floor. As the walls of the tunnel are relatively unyielding and the space snugly filled normally, any encroaching structure may be expected to compress the contents. For almost 50 years, cases of obscure wasting of the thenar muscles associated

with a variable sensory loss have been described but no adequate explanation has been offered.1 In more recent years several instances of compression of the median nerve within the carpal tunnel due to arthritis, old injury or acromegaly have been reported, the clinical picture being much the same as in the group with obscure thenar wasting.2, 3, 4 Moreover, division of the transverse carpal ligament was carried out in one of Woltman's cases (1941) and in both of Zachary's cases (1945) with definite improvement. In 1946, Cannon and Love⁵ described 38 similar cases, nine of which were treated surgically with good results.

Credit for recognizing the present syndrome, however, goes to Brain, Wright and Wilkinson⁶ who, in 1947 reported six cases of median neuritis arising "spontaneously" and not related to old trauma or disease of the carpus. In their cases the clinical picture was fully developed, there being weakness and wasting of the thenar muscles supplied by the median nerve (abductor pollicis brevis and opponen pollicis), diminution in sensation to pinprick, light touch and tactile discrimination in the median distribution (thumb and lateral two and a half fingers), and in the earlier stages nocturnal burning pain in the

median territory. Section of the volar carpal ligament gave extremely satisfactory results, confirming their theory that compression at the wrist was the mechanism, although there was no local abnormality to suggest that the wrist was responsible. After their paper, similar full-blown cases were reported from England,7,8 France,9 New Zealand¹⁰ and the U.S.A.^{11, 12} Kremer et al.,¹³ in a recent article in which 40 surgically treated cases are reported, deal particularly with the sensory aspects of the syndrome, i.e., the painful nocturnal paræsthesias which have long borne the name acroparæsthesiæ without being delineated clearly or satisfactorily explained. As early as 1880, Putnam¹⁴ had described 31 cases of painful nocturnal paræsthesias and went so far as to note a tendency to median distribution, but there was no further elucidation in the following 70 years. Kremer et al. emphasize recognition of the syndrome at the stage of subjective sensory disturbance, before weakness and hypæsthesia become added.

The clinical picture as compounded from published papers and my own observations in five cases (one surgically treated) is highly characteristic, though some aspects await clarification. Usually the earliest complaint is of numbness, tingling or painful burning of the fingers, coming on during sleep and either waking the patient from a sound sleep during the night or being present on awakening in the morning. In addition to the suffering, lack of sleep may be an important feature. Even a daytime nap may occasion symptoms. Usually rubbing the affected parts or dangling the hand over the side of the bed or just holding the wrist straight brings relief in a few minutes. Associated with the pain there is often a sensation of swelling, or a feeling of paralysis of the affected fingers which are held in semi-flexion. The paræsthesias lie within the peripheral sensory territory of the median nerve (thumb and two and one-half fingers) but not all of these fingers need be affected and, if they are, certain digits may be more involved than the others. It is unusual for the patient to complain of sensory disturbance in the lateral half of the ring finger. Kremer et al. make the important point that the patient when first seen will often not be able to localize the paræsthesias reliably, but further observation will show restriction to the median territory. In "spontaneous" cases, pain is uncommon during the day, no matter how much the hand is used, but, where occupational trauma or old injury is a factor, excessive use may elicit discomfort. That the sensory disturbance should be chiefly nocturnal is a rather unexpected characteristic and as yet remains unexplained. The typical pain often extends from the pads of the fingers over the palm to reach the wrist, but 25 of Kremer's patients also had pain in the forearm and even higher. This is of great importance, for arm pain would suggest cervical-disc disease rather than a peripheral lesion, especially when the history and examination do not indicate abnormality of the wrist.

In most cases the complaints do not advance past this stage of recurrent nocturnal discomfort. but not infrequently, especially in those obliged to seek medical attention, within a few months persistent numbness or lack of feeling appears in one or two finger-pads and weakness of the thenar muscles becomes evident, often reaching so striking a degree as to provide the chief complaint. Dishes slip from the hand, a needle can no longer be pressed tightly enough to sew, winding of a wrist watch or tightening an earring may become impossible, buttoning clothes is clumsily performed and holding a pen properly requires great effort. Sensory deficit may be so prominent that the presence of a thimble upon the middle finger cannot be appreciated.

The syndrome affects middle-aged women predominantly. Surprisingly, in the majority of cases symptoms are bilateral, the dominant hand being first and more severely affected. In one of my cases the symptoms were unilateral at first, but splinting the affected hand resulted in the appearance of trouble in the previously unaffected hand within a week or so, probably due to increased use. The victim is usually a busy housewife, excessive use of the hands as in sewing, scrubbing, or dishwashing, playing some part, for a rest, a holiday or splinting the wrist commonly gives temporary relief. The symptoms may develop during pregnancy and relief follow delivery. The associated pain in the arm is said to be a poorly localized ache felt deep in the muscles.13 However, two of my patients have had a most distressing nocturnal pain well localized to the antecubital region and further observation will be necessary before the properties of the arm pain are fully clarified. Worsening of symptoms by contact with hot or cold water is uncommon, as are colour changes in the fingers during the period of pain. The true incidence of the syndrome is not known, but the fact that Kremer

saw 60 cases in a few years indicates that it is more common than might be supposed.

On examination, very little abnormality will be detected in the early stages but in advanced cases fine discrimination on the involved fingerpads will be impaired and in the most severe cases pinprick too. Phalen¹¹ found the tip of the middle finger to be most regularly involved. Where weakness is present, atrophy of the lateral part of the thenar eminence will be evident. Kendall⁸ mentions trophic changes such as cyanosis, dryness of the skin, atrophy of the terminal finger pulp, colour changes on exposure to cold and lack of lustre of the nails. He also found abductor pollicis brevis to be more involved than opponens pollicis. According to most authors compression or manipulation of the wrist does not bring on symptoms and Tinel's sign is not elicited by tapping at the wrist. However, Phalen¹¹ found a positive Tinel's sign in all his cases and furthermore the paræsthesias in the fingers could be increased by sharply flexing the wrist for a period of 60 seconds and relieved by again straightening the wrist. Gilliat and Wilson¹⁵ described a test in which transient ischæmia caused by a blood-pressure cuff may produce paræsthesias or abnormally early sensory loss in the territory of an impaired median nerve and thus help to clinch the diagnosis. Occasionally a neuroma of the median nerve is visible above the wrist. No abnormal neurological signs are found proximal to the wrist.

The clinical picture associated with compression due to old trauma at the wrist, pressure on the palm due to occupation or that associated with pregnancy, carpal arthritis, tenosynovitis, ganglion within the carpal tunnel and acromegaly does not differ significantly from that just described except that the complaints are usually unilateral. Routine radiography of the wrist might be advisable, before the term "spontaneous" is applied.

DIAGNOSIS

The fully-developed syndrome is so characteristic that the diagnosis is established with no difficulty. Because of the popular recognition of cervical-disc disease at present, and the frequency with which bony changes are seen in routine cervical radiographs, the complaints may be attributed to root compression, particularly if arm pain is prominent. In my experience disc disease or cervical osteoarthritis does not produce paræsthesias or sensory changes involving so specific a region as the volar aspect of the thumb, index and middle fingers.

Protrusion at the C5-6 level results in sensory disturbance referred to the thumb, or index finger, and at the C6-7 level to the middle and ring fingers, but not to the thumb, so that two contiguous disc protrusions would be necessary to cause the present syndrome and even then the replica would not be a good one. Moreover, pain in the neck or root of the neck should accompany arm pain due to disc disease and it is rare for arm pain to occur alone for more than a few weeks before extension to the neck takes place. When the syndrome is bilateral and the acroparæsthesias are clearly localized to the median territory, the diagnosis of disc disease becomes untenable. Of course, the two conditions may co-exist.

When thenar atrophy is present, diagnosis is made somewhat easier, for the two conditions which might be confusing-cervical disc protrusion and compression of the brachial plexus in the region of the first rib (scalenus anticus syndrome, cervical rib, costo-clavicular syndrome, etc.)-actually cannot mimic the clinical picture under discussion. Brain et al.6 have rightly pointed out that the second type of condition mentioned above-compression of the brachial plexus-should not lead to both sensory and motor disturbance on the same side of the hand. As the lower cord of the brachial plexus is usually involved, atrophy of the small muscles of the hand might result, but any sensory disturbance would be along the ulnar border of the hand and not the thumb side. That thenar wasting is practically never associated with cervical disc disease is probably explained by the fact that the motor neurones of the hand are localized to the middle third of the first thoracic segment of the spinal cord and do not extend into the eighth cervical segment.16 Disc protrusion at T1-2 is rarely diagnosed; even though it were more common than suspected, it still could not account for sensory disturbance in the median distribution. From a clinical viewpoint it is well known that most cervical-disc disease occurs at the levels C5-6, C6-7 and C7-T1. Lesions of the median nerve proximal to the wrist can usually be recognized because of involvement of the muscles of the forearm. Graham¹⁷ referred to involvement of the median nerve by an anomalous fibrous band at the elbow. Amyotrophic lateral sclerosis often begins with weakness of one thumb but lack of sensory disturbance and the presence of fasciculation should enable a correct differentiation to be made even in the early stages. Syringomyelia and hydromyelia associated with atlanto-occipital abnormalities can be distinguished by the presence of sensory dissociation and alteration in reflexes in the affected arm. De Quervain's disease or stenosing fibrous tendovaginitis of the long flexor and long abductor of the thumb produces pain at the wrist related to movement of the thumb and should not lead to any confusion with the present syndrome.

The occurrence of nocturnal paræsthesias as an important part of the syndrome prompts the suggestion that at least some instances of ordinary "sleeping" of the upper limbs which awakens many sleepers every night, and almost every sleeper at least occasionally, are due to carpal tunnel compression. In a casual survey of the women's wards of the Montreal General Hospital it was found that nocturnal paræsthesias had been noted by almost all patients and were usually attributed to lying on the affected arm. However, the paræsthesias in a number of these cases were limited to the fingers and hands and it is quite possible that if these patients were asked to make further careful observations the median territory might prove to be selectively involved. Obviously in those patients whose entire arm is reduced to a virtually paralysed tingling appendage, the fault must lie higher up. Since most patients when first asked are quite unable to give any clear account of the "sleeping" of their limbs, the suggestion that carpal tunnel compression plays a significant role is put forward with reserve. It might be anticipated also that very minor variations of the syndrome are possible. In this regard, I have seen several patients who have had a persistent numbness of the pad of one of the fingers as an isolated complaint which has remained unexplained. In another personal case, small cracks or ulcers had occurred at the nail edges on the thumb and lateral two fingers (median distribution) of each hand, accompanied by a great deal of pain, again without obvious cause.

MECHANISM

As the same clinical picture is seen following fractures of the wrist and in association with arthritis in which the carpal tunnel is encroached upon, it was surmised by Brain et al. that the median nerve could be compressed "spontaneously." The uniform relief of symptoms by section of the transverse carpal ligament leaves no doubt that the fault lies within the tunnel. It is likely that compression leads to a mild but damaging recurrent ischæmia of the nerve, although the mechanism by which this occurs is not clear. According to Phalen, biopsy specimens of the transverse carpal ligament and the flexor synovial sheath have shown no abnormality. Although the tunnel is "tight" in some cases at operation, it is not so in all. Brain et al. showed by experiments in the cadaver that extension of the wrist appreciably decreases the volume of the carpal tunnel, the authors inclining to the view that excessive use of the hand with the wrist dorsiflexed leads to compression of the median nerve. Kendall, also experimenting in the cadaver, found that, with the wrist only slightly dorsiflexed, tension on the flexor muscles (the fingers being held) resulted in compression of the median nerve. Dynamic factors must play some part, since splinting the wrist usually gives relief, whereas excessive use of the hand aggravates the nocturnal complaints. In one of my cases splinting of the wrist resulted in a definite improvement in the power of the thumb. It is possible that immobilization in the very earliest stages might result in prolonged relief.

At operation in advanced cases the median nerve is found to be enlarged immediately proximal to the carpal ligament, the neuroma probably being closely akin to that seen on the ulnar nerve just proximal to the condylar groove in cases of irreversible ulnar neuropathy. The site of the median nerve enlargement probably indicates that the proximal edge, at least, of the ligament is an important factor in compression. Phalen, as already noted, found that acute flexion of the wrist increased the symptoms and concluded that the median nerve was damaged by the pressure of the upper edge of the transverse carpal ligament in the flexed position. In support of this he referred to Meadoff¹⁸ who demonstrated experimentally by injection of lipiodol into the sheath of the median nerve that the medium flowed readily into the palm with the wrist extended and stopped sharply at the level of the transverse carpal ligament with the wrist flexed. The failure to obtain surgical relief if the most distal portion of the ligament is not completely sectioned indicates that the lower as well as the

upper edge can cause compression. The predominance of the syndrome in women of middle age, and its association with pregnancy in a few cases, have led Kremer to suggest that endocrine factors play a significant role, although the mechanism is of course obscure. The fact that both hands often become involved at the same time suggests some systemic factor.

Even as the basic pathogenesis is unknown, likewise the explanation for the nocturnal occurrence of the paræsthesias is wanting. Reduction of the peripheral blood flow with ischæmia of the nerve or nocturnal cedema of the structures within the carpal tunnel has been suggested as the cause. The prompt relief of symptoms on dangling the hand for a minute or two, or simply holding the wrist straight, argues against ædema as a mechanism. The position in bed need not be a factor, for one of my patients developed pain if she fell asleep sitting in a chair. Accidental features related to sleeping are ruled out by the regular occurrence of pain night after night. In a personal case the patient took special note of his nocturnal paræsthesias and concluded that each time that he awakened with symptoms the wrist on the affected side was acutely flexed. If this evidence was reliable, it would favour Phalen's theory that flexion of the wrist is the prime method by which the nerve is damaged.

TREATMENT

Surgical division of the transverse carpal ligament is recommended especially when signs of persistent injury to the median nerve have appeared, but also if the recurrent sensory discomfort occurring by itself is sufficiently severe. The operation, which is simple and brief, is clearly set forth by Brain et al. and Kremer et al. Frequently, a neuroma of the median nerve is encountered just proximal to the transverse carpal ligament, but Phalen found no parallel between the presence of a neuroma and the severity of the deficit. Care is necessary to ensure complete division of the ligament, particularly at its distal border. Subjective complaints disappear immediately, while sensory loss and motor weakness are slowly reversed in the following weeks or months, unless advanced damage has occurred. Section of the transverse carpal ligament does not lead to any disability of the wrist joint, even several years after operation, according to Wright, 19 probably because flexion of the digits is accompanied by dorsiflexion of the wrist so

that the long flexor tendons are held within the tunnel instead of springing forward.

SUMMARY

Attention is drawn to the syndrome of compression of the median nerve in the carpal tunnel at the wrist. In advanced cases there are subjective and objective sensory disturbances and weakness and atrophy of the thenar muscles. Mild cases with only subjective complaints are probably very common. Section of the transverse carpal ligament is recommended in selected cases.

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TUBERCULOSIS

"Despite the splendid record of achievement in reducing the death toll from tuberculosis, the disease still ranks among the important public health problems in this country (U.S.A.). Unfortunately, complete information on the frequency of new cases and of total existing cases of the disease is not available on a nationwide basis. Insofar as existing data go, they suggest that the decline in the morbidity from tuberculosis has not kept pace with the decrease in mortality. The improvements in detection and treatment of the disease have cut the death rate but increased the number of survivors. Recent advances in chemotherapy and surgery have accelerated these trends. Because of the chronic nature of the condition and its tendency to recurrence, some of these patients continue to be a focus of infection for new

In the circumstances, there can be no letup in the campaign against the disease. With the rising proportion of ambulant cases undergoing chemotherapy, adequate provision for medical supervision of cases treated at home has become increasingly important. This programme must be on a long-range basis, because the time has been too short to determine whether the newer therapy will ultimately prove effective and whether cases so treated will remain non-infectious. Moreover, treated cases generally are not as well trained as sanatorium patients in hygienic measures to protect their household and other contacts from tuberculosis infection. Both physicians and the public, therefore, should be made aware of the continued need for giving ample support to antituberculosis efforts."—Stat. Bull., 35: 3, 1954.

RELATIVE EFFICACY OF SODIUM AMYTAL, CHLORAL HYDRATE AND DICHLORALPHENAZONE

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IN MEDICAL PRACTICE the need for a sedative has become almost synonymous in the minds of the physician and patient with the prescription of a barbiturate compound. The following information concerning the relative proportion of various sedatives prescribed on medical wards was gleaned from a random census. Of 173 medical patients, 125 were receiving sedation at night; 118 of these were on a barbiturate, and seven on chloral hydrate.

The problem of wise and adequate sedation, though not a dramatic one, is important enough to the patient to demand a periodic evaluation by the physician. For this reason it was decided to undertake a study of various sedatives on hospital patients in medical wards, and to note objectively and subjectively the hypnotic effects and side-reactions. The three following hypnotics were chosen:

- 1. Elixir of sodium Amytal, a popular barbiturate, easily dispensed in liquid form. (Dose: 3 ii = 2 gr.
- 2. Chloral hydrate, the oldest member of the hypnotics, and still one of the cheapest and best. (Dose: 5 ii = 10 gr.)
- 3. A new hypnotic, Dichloralphenazone‡ containing two moles of chloral hydrate and one mole of antipyrine (phenazone B.P.), the latter potentiating the effect of the former, a compound non-hygroscopic and stable even in solution. (Dose: 5 ii = 15 gr.)

4. A placebo mixture, of similar taste and colouring to compounds 1, 2 and 3.

Although combinations of several synergistic drugs are commonly used in various medications, few combinations of sedative drugs are in vogue. The combination of chloral hydrate and antipyrine has recently been described as showing synergism of action, and the hypnotic effect studied in the laboratory animal and the patient. However, such a combination is not new. It was first described in 1892 by Behal and Choay.4 In 1928 Steinmetzer⁵ and others^{6, 7} experimented in animals with a combination of a small amount of an antipyretic, namely antipyrine, amidopyrine and quinine, and a sedative such as paraldehyde, chloral hydrate and sodium barbitone. There was a potentiation of sedative effect and of lowering of rectal temperature, with some variation from species to species.

MATERIAL AND METHODS

The clinical trial of the various sedatives was made upon 52 male patients drawn from the medical wards. There was a fairly even distribution of the ages from 21 to 77. Cases of insomnia were selected and an individual assessment of the cause of sleeplessness was undertaken. Using a system of points, a total possible handicap of -20 was allotted each patient. This handicap was then adjusted in each case so that a severe problem would have a small handicap and a minimal problem would have a large one. The system of adjusting the handicap was as follows:

Ne	ature of problem	Severe problem		No problem	
	Previous insomnia		. 0	to	
~	Dyspnœa		. 0	to	-3
	Pain		0	to	-3 -3
	Nocturia		0	to	
	Emotions		0	to	5 -5
	Total			to	-20

Pitted against this debit, a possible total credit of +20 points could be earned by a sedative which proved satisfactory in every respect. The factors considered on the credit side were subdivided and awarded points in the following ranges:

Properties of sedative U	Infavourab	le	Favourable
Onset of sleep	0	to	+6
Onset of sleep	0	to	+6
Absence of objective side eff Absence of subjective	ects 0	to	+3
side effects	0	to	+3
Taste	•	to	+2
Total	0	to	+20

For each night's sedation a record was kept of the score in its various subdivisions and the total obtained by subtracting the handicap. The patients were not told that any particular investigation was being undertaken and the assessment of the previous night's sleep was made in the natural course of conversation each day.

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†Manufactured by F. Horner Ltd.

The four preparations in liquid form, identical in colour and volume of dose, were labelled A, B, C, and D by an independent referee and their identity was not disclosed until the completion of the investigation. Each sedative was tried for one night in turn over a period of four consecutive nights. The order in which the drugs were employed was varied in each period of trial so that no conditioned reflex effect would be introduced in the final analysis.

At the end of each four-night trial, the patient was asked to give his opinion as to which night's sleep had been the best. The final results of the entire study were obtained by noting which sedative produced the most rapid onset and the longest duration of sleep with the fewest ill effects.

RESULTS

Of the 52 patients studied, three expressed the opinion that none of the sedatives had been helpful. Table I shows the average points awarded each drug for its various properties and includes the total points awarded each drug after subtracting the handicap. The number of patients who preferred each sedative is also demonstrated.

sleep. None of these four patients had been considered to have a significant psychoneurotic component in their medical condition. Three other patients were unable to state that any of the sedatives had proved helpful.

The side effects noted in the series were infrequent and mild, and the placebo gave about the same reactions as the true sedatives. Urticaria and pruritus were noted in one instance with each of the drugs. In two cases there was twitching of the legs noted with dichloralphenazone. The incidence of "hang-over" effects was strikingly low throughout the series.

DISCUSSION

The pharmacology of the barbiturates, and in particular that of sodium amytal, has been adequately documented in many textbooks and monographs.^{1, 2, 3} The extent of the hypnotic effect and the possibility of side reactions, though few, are well known.

Chloral hydrate lost its popularity with the advent of the barbiturates. It was literally crowded out by extensive advertising of these newer compounds and the ease with which these drugs could be dispensed. However, recently in the United States, the awareness by the medical

TABLE I.

RESULTS OF CLINICAL TRIAL OF SEDATIVES						
*	Average points					Number of
Drug	Onset of sleep	Duration of sleep	Taste	Absence of side effects	Total points	patients preferring
Sodium amytal	5.29	4.63	0.71	5.71	323	27
Dichloralphenazone	5.11	3.80	0.96	5.61	261	10
Chloral hydrate	4.59	3.44	0.95	5.67	208	8
Placebo	3.75	2.90	0.96	5.68	153	4

From these results it may be seen that sodium amytal was the best of the sedatives tried. It gave the quickest onset and the longest duration of sleep. Dichloralphenazone was slightly less effective in producing rapid onset of sleep and was considerably behind sodium amytal in sustaining sleep. Chloral hydrate was found to be somewhat better than the placebo, but not as good as dichloralphenazone. An attempt was made to see whether there was any correlation between the nature of the patient's illness and the sedative which helped him most. No uniform pattern could be found, however.

It was of considerable interest to note that in four of the 52 cases the placebo gave the best

profession of increasing addiction to barbiturates has helped to draw attention to chloral hydrate and allied compounds, boosted by the fact that the former product is now available in gelatin capsules. This has overcome one of its main drawbacks, that of its bitter taste and gastric irritation. In brief, to re-emphasize its attractive properties one can state generally that chloral hydrate has reliable therapeutic action, lack of side reactions, and little danger of habituation. Sleep is quiet and deep without a hangover but usually not as prolonged as with a barbiturate. The only contraindications are severe renal and hepatic disease.

In our experience the addition of antipyrine to

chloral hydrate had a synergistic effect. Although the therapeutic properties and advantages derived from such a combination had been clearly recognized by the investigators mentioned above, yet such a product never reached the roster of popular sedatives. Perhaps they were more interested in the antipyretic action than in the hypnotic effect, or perhaps there was confusion in the minds of some as to the toxicity of antipyrine, since it is readily mistaken for aminopyrine, an allied compound that may cause agranulocytosis. The only side reactions reported with the use of antipyrine are skin eruptions consisting of macular patches which may last for months after discontinuation of the drug.1 Such a skin sensitivity is not more frequent than with the barbiturates.

CONCLUSIONS

1. The comparative sedative effects of sodium amytal, chloral hydrate, dichloralphenazone and a placebo were studied in 52 male patients.

2. Sodium amytal was the best of the sedatives tried, both subjectively and objectively, as judged by rapidity of onset and duration of sleep. Dichloralphenazone was second best; chloral hydrate was the least effective.

3. None of the drugs produced significant side effects.

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RÉSUMÉ

Cet article a pour but de comparer les résultats obtenus avec l'administration d'élixir d'Amytal, d'hydrate de chloral, d'un nouvel hypnotique nommé dichloralphénazone et d'une médication inoffensive dont le goût et la couleur avaient été rendus semblables à ceux des produits précédents. Les auteurs établirent une méthode assez compliquée mais tenant compte des principaux facteurs liés à l'insomnie d'une part, et des différents aspects du sommeil d'autre part, et soumirent 52 malades à cette épreuve. L'opinion des malades vis-à-vis du sommeil produit par les quatre potions servit de critère dans l'évaluation de l'efficacité de celles-ci. La préférence alla à l'Amytal, tant pour la rapidité avec laquelle le sommeil est produit que par la durée de celui-ci. Le dichloralphénazone suivit de près pour sa facilité à causer le sommeil, mais fut loin d'égaler l'Amytal dans la durée de son action. L'hydrate de chloral se classa légèrement mieux que la médication contrôle. Les effets fâcheux furent peu nombreux et d'importance négligeable. Les propriétés sédatives du dichloralphénazone viennent de l'action synergique de l'hydrate de chloral et de l'antipyrine.

INTRANASAL CORTICOTROPHIN IN HAY FEVER AND ALLERGIC RHINITIS

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THE BENEFICIAL EFFECTS of corticotrophin in hay fever and allergic rhinitis have been reported by several authors.1 to 5 However, the necessity of administering this hormone by frequent injections has considerably restricted its use in these disorders.

Recently it has been shown by Paulsen,6 and by McKendry, Schwarz and Hall⁷ that a suitably extracted and formulated corticotrophin* can be therapeutically effective when administered intranasally in the form of a snuff. In this way, it has been used in a number of clinical conditions which were known to respond to the parenteral administration of the hormone. Encouraged by our preliminary studies, we decided to extend them on a number of patients suffering with hay fever and allergic rhinitis during the height of the pollen season in the Ottawa

In all, 13 consecutive patients with hay fever, and two patients with allergic rhinitis, were included in this investigation. At one time or another the majority of our patients had been treated with antihistamines and nasal decongestants of various types, and in the past attempts were made to desensitize some of them against the offending pollen with only little,

^{*}I am grateful to Nordic Biochemicals, Ltd., Montreal, for the generous supply of intranasal corticotrophin, "Rhinacton," which was used in this trial.

transitory, or no effect on their nasal allergy. Before the trial each patient was carefully examined; their chests were radiographed and one patient was rejected because of findings suggestive of pulmonary tuberculosis.

The intranasal corticotrophin was dispensed in a small V-shaped glass tube corked at each end. Immediately before use the two stoppers were removed and one end of tube inserted into the nasal opening with the orifice of the tube pressed lightly against the mucous membrane of the nostril. After a few inspiratory efforts the powdery contents are blown out from the tube and impinge on the nasal mucosa. Intranasal corticotrophin is therapeutically effective when absorbed from the nasal mucosa only. When inhaled too far, as within the nasopharynx, it is not systemically absorbed. To determine the route that corticotrophin takes intranasally, the hormone was mixed with an indicator to give a bitter-sweet taste at the back of the tongue following a too deep inhalation. It was also found that addition of bacitracin and tyrothricin to the hormone did not impair its nasal absorption. It appears that such a formulation was of some value in allergic rhinitis, as in several instances these antibiotics served a useful purpose in restoring the infected nasal mucosa to normal.

CLINICAL TRIALS

The results of this investigation are presented in Table I. In five patients an intranasal placebo was tried for three days before the commencement of corticotrophin therapy. This consisted of starch and glucose powder mixed together.

TABLE I.

No.		Improve ment	Allergy	No mprove- ment
1	Allergic rhinitis	1	-	-
1	asthma	1	-	_
5	Uncomplicated hay fever	5	-	-
3	Hay fever and bronchial asthma	3	-	-
1	Hay fever—chronic sinusitis and bronchial asthma	1	1 (Antibiotics	, –
4	Hay fever—nasal polypi and chronic sinusitis	4	(ACTH)	-
5	Hay fever controls	-	(AOIII)	5

1. Allergic Rhinttis

Mrs. C.M., 45 years old. Attacks of dry and exhaustive sneezing and lacrimation when exposed to dusts and fresh paints. No response to antihistamines. Lately the sneezing attacks have been particularly troublesome and interfered seriously with her activities.

Intranasal corticotrophin began with 20 units five times daily for several days and then the dose was gradually reduced until she was taking only 20 units daily. On the first day of treatment, the nasal irritation subsided and she stopped sneezing. In days that followed, she was no longer affected by dust and remained symptom-free for the next two months while taking 20 units of intranasal corticotrophin every second or third day.

2. Allergic Rhinitis and Bronchial Asthma

Mrs. E.C., 42 years old. Attacks of sneezing accompanied by a copious watery nasal discharge and lacrimation when exposed to domestic or farm animals; these attacks were frequently followed by a bronchial

Intranasal corticotrophin was begun during an acute episode, with 20 units three times daily for two days. Within two hours of the first dose sneezing stopped and nasal discharge and lacrimation diminished. The same evening she was symptom-free. Patient continued to take 20 to 40 units of intranasal corticotrophin prophylactically when exposed to animals, and for the last six months she has been well, and not affected by several visits to the country.

3. Uncomplicated Hay Fever

Miss D.L., 40 years old. Seasonal rhinitis during the pollen season for the last 12 years; little benefit derived from antihistamines or desensitization procedures. Present attack started six weeks ago with nasal congestion, irrita-tion, lacrimation and some difficulty in speaking clearly. Patient felt miserable and depressed and unable to en-Fatient felt miserable and depressed and unable to engage in her nursing duties. Intranasal corticotrophin started with 20 units, three times daily for several days. After the first dose, the patient sneezed a few times and this was followed by a profuse nasal discharge lasting for two hours. The following morning the hay fever symptoms had completely disappeared. For the first time in weeks her pass and every term element the could be coul in weeks her nose and eyes were clear and she could breathe freely through the nose. Patient remained symptom-free while taking intranasal corticotrophin prophy lactically, 20 to 40 units every three to four days until the end of the pollen season. During that time she ex-perienced a general feeling of well-being with euphoria, and performed her work with an increased vigour.

Mr. R.J.S., 34 years old. Hay fever for the last six years. Present attack started two weeks ago with freyears. Present attack started two weeks ago with frequent bouts of sneezing, and watering of the eyes. There was no response to an intranasal placebo given for three days. However, when this was replaced by intranasal corticotrophin, 20 units three times daily, he experienced only one mild bout of sneezing on the first day of treatment. Patient remained symptom-free when taking 20 units twice daily and was able to control most of his symptoms with 20 units daily until the end of the hay fever season.

Mr. J.R., 52 years old. Hay fever of several years duration, much worse in the last two seasons; also troubled with rheumatoid arthritis. When first seen, he had much nasal irritation and congestion and his voice was indistinct. There was no change in his condition after an intranasal placebo had been given for three days. On the fourth day this was replaced by intranasal corti-On the fourth day this was replaced by intranasal corti-cotrophin, 20 units three times daily for one week. On the second day of treatment the nasal irritation and con-gestion subsided, and speech was much clearer. He be-came symptom-free in the first week of treatment and afterwards he was able to control his rhinitis with 20 units every second day until the end of the pollen season. Coincidentally, his arthritis improved during treatment, but most of his joint symptoms returned when intranasal corticotrophin was discontinued.

Miss J.B., 20 years old. Hay fever for the last five years lasting for eight to 10 weeks during each pollen season. When first seen she was complaining of nasal irritation, bouts of sneezing, lacrimation and an occasional shortness of breath. There was no improvement of symptoms after two days on an intranasal placebo. This was followed by intranasal corticotrophin 20 units twice daily for four days. On the second day of treatment she remarked "I feel better than I have for years." She remained symptom-free while taking the intranasal corticotrophin for another two days. However, on the fifth day of treatment the supply of corticotrophin ran out and several days later she experienced a relapse which was only slightly controlled with antihistamines and nasal sprays.

Mr. N.D., 36 years old. Hay fever for the last eight years. In the first two years he obtained some relief from the acute attacks with pre-seasonal desensitization to the ragweed pollen, but in subsequent years this form of treatment was ineffective. When first seen, he was suffering from intense nasal irritation, conjunctivitis, burning of the face, persistent headache and severe depression. Antihistamines made him feel only more depressed. Intranasal placebo administration was tried for three days with no effect on his symptoms or signs. Intranasal corticotrophin 20 units three times daily was then given for several days. Following the first dose, there was some temporary increase of coryza, but the same evening his nasal irritation, burning feeling of the face and lacrimation became less, and headache disappeared. The following morning he was symptom-free and felt full of energy and well-being. Intranasal corticotrophin was continued with 20 units twice daily for four days and then reduced to 20 units daily or every second day until the end of the pollen season. He remained symptom-free throughout the treatment and there was no recurrence of coryza when intranasal corticotrophin was discontinued.

4. HAY FEVER AND BRONCHIAL ASTHMA

Miss A.B., 22 years old. Hay fever since childhood associated with attacks of bronchial asthma. The latter was particularly troublesome at night time, and only incomplete relief was obtained with adrenalin and aminophyllin. Intranasal placebo administration for three days was ineffective. On the fourth day intranasal corticotrophin was substituted, 20 units three times daily for three days; 20 units twice daily for four days; treatment was then discontinued because of the shortage of intranasal hormone. On the first day of treatment the acute nasal irritation and burning became less noticeable, and at night she experienced only a mild asthmatic attack. The following morning, the patient felt much improved and the nasal irritation had gradually subsided. There was no recurrence of bronchial asthma while she was taking intranasal corticotrophin. She felt cheerful and full of energy and her appetite for food returned. However, only two days after the intranasal corticotrophin was discontinued, she experienced another relapse.

Mrs. B.M, 32 years old. Hay fever and exhausting attacks of bronchial asthma for the last 12 years. The patient started taking corticotrophin intranasally, 20 units four times daily for four days. Immediately after the first dose, she experienced some nasal irritation with sneezing and her nose and eyes did not stop running for about an hour. Afterwards she experienced only slight nasal irritation after each vial which did not bother her unduly. On the second day of treatment the patient felt greatly relieved, her breathing became easier and for the first time in weeks she was free of bronchial asthma. However, on the third day of treatment, it was noted that she became unusually excitable, and that periods of euphoria alternated with great tenseness and irritability. She has also complained of inability to sleep at

night time. Because of these manifestations it was thought advisable to discontinue further treatment. Two days later some of her hay fever symptoms returned and this was followed by a prolonged attack of bronchial asthma.

Mrs. J.A., 26 years old. Hay fever and bronchial asthma since early childhood. In the last month patient experienced much nasal burning and irritation; the nasal mucosa appeared acutely inflamed. She felt depressed and lacking in energy. Her appetite diminished and sleep was difficult because of coryza and asthmatic attacks. Corticotrophin was given intranasally in doses of 20 units three times daily for three days, 20 units twice daily for two days, and 20 units daily for 16 days. On the second day of treatment patient noticed that her nasal irritation subsided and that she "felt light-headed and full of energy." After eight days the inflamed nasal mucosa assumed a normal appearance and she was free of nasal symptoms. Her appetite and energy returned, and there was only one mild bronchial attack of asthma in a month. There was no return of symptoms one month after intranasal corticotrophin was discontinued.

5. Hay Fever—Bronchial Asthma— Chronic Sinusitis

Mrs. R.R., 54 years old. Severe coryza and lacrimation during the pollen season, frequent headaches, chronic frontal sinusitis and attacks of bronchial asthma, twice to four times daily.

Intranasal corticotrophin was started with 20 units twice daily for one week. After the first dose, there was some nasal irritation with sneezing and lacrimation for about half an hour. The same night, the patient had an uninterrupted night's rest free from bronchial asthma, the first one for many weeks. The following morning she was free of nasal irritation, sneezing and lacrimation, and her chest and head felt "light and clear." In the week that followed there was no indication of hay fever or asthma. She was free of headaches, and for the first time in years she was able to sleep on a feather pillow. After seven days, intranasal corticotrophin was discontinued because of influenza. It was restarted in three weeks' time when her hay fever and bronchial asthma symptoms returned. However, after the first dose the patient experienced a smothering feeling in the chest and this occurred again after the second dose of the intranasal preparation. Skin tests showed that this patient had become sensitive to the antibiotics contained in the preparation. She responded well to parenteral corticotrophin.

6. Hay Fever—Chronic Sinusitis and Nasal Polypi

Mrs. B.S., 46 years old. Attacks of hay fever made her life intolerable for a number of years. In the last few years she developed chronic sinusitis and nasal polypi and suffered from recurrent attacks of bronchitis. She was first seen at the height of the pollen season complaining of difficulty in breathing, nasal irritation, lacrimation photophobia, persistent frontal headache, mental sluggishness, irritability and insomnia. She experienced only slight relief from nasal decongestants, antihistamines made her feel drowsy and depressed, and there was no relief from intranasal placebo for a period of three days. Intranasal corticotrophin therapy began with 20 units, four times daily for three days. After the first two vials, the patient experienced an attack of sneezing and a copious nasal discharge lasting for half an hour. She woke up the following morning very much improved in all respects and had no return of her hay fever symptoms in the days that followed. After four days, the intranasal corticotrophin preparation was reduced to 20 units twice daily for five days and afterwards to 20

to 40 units every second or third day until the end of the pollen season. During that time she continued to do well. Also it was noted that the troublesome nasal polypi disappeared during hormonal therapy; in autumn for the first time in many years she was free of her usual acute attack of bronchitis.

Mrs. E. de T., 38 years old. Allergic rhinitis and hay fever, chronic sinusitis and nasal polypi of eight years' duration. There was no relief with antihistamines or desensitization procedures. Intranasal corticotrophin was started with 20 units three times daily for two days, 20 units twice daily for two days and 20 units once daily thereafter. On the first day, patient observed that the stuffy feeling in the head cleared, nasal secretions diminished, breathing became easier, and that for the first time in six years, she could taste her food. On the second day of treatment her head felt "light and clear" and she was not affected by a visit to the country which usually made her feel much worse. After three weeks patient continued with 20 units of intranasal corticotrophin prophylactically every three to four days and during that time it was observed that the turgid nasal mucosa and polypi which were obstructing her nasal passages had disappeared. However, after three months of intermittent treatment, she developed an allergy to the corticotrophin powder contained in the preparation and this was discontinued. She relapsed shortly afterwards.

Miss E.M., 30 years old. Hay fever for 10 years, chronic sinusitis and nasal polypi. The latter required surgical treatment once a month. Patient did not respond to antihistamines or to desensitization with the ragweed pollen. She had persistent frontal headaches and a dull ache in the maxillary sinus region. Intranasal corticotrophin began with 20 units four times daily for four days. On the second day, the nasal irritation and lacrimation subsided and she could partly breathe through her nose. After four days she felt greatly improved, was able to breathe freely through her nose, and her headache and sinus ache disappeared. Intranasal corticotrophin was continued in this case with 40 units twice weekly for three weeks until the end of the pollen season and during that time the patient remained free of symptoms. Inspection of the nose after three weeks of treatment revealed a healthy nasal mucosa with disappearance of nasal polypi.

SUMMARY

- 1. The intranasal route of absorption of a specially prepared corticotrophin powder was investigated in patients suffering from hay fever and allergic rhinitis.
- 2. It would appear that the nasal absorption of this corticotrophin powder was not impaired when mixed with bacitracin and tyrothricin in a suitable combination. This appears to be a useful adjunct to corticotrophin therapy, as in several of our patients these antibiotics have helped to restore the infected nasal mucosa to normal.
- 3. In all, 13 consecutive patients with acute hay fever and two patients with allergic rhinitis were tried with this specially prepared intranasal corticotrophin-bacitracin-tyrothricin mixture.
- 4. From our data it would appear that a complete remission of symptoms was obtained in all

the patients who presented themselves for this investigation.

- 5. However, after the initial improvement, intranasal corticotrophin was discontinued in three patients. In one case, this was thought necessary because some undesirable mental changes occurred. In the other two, allergic manifestations to the intranasal preparation developed; in one, the patient became sensitized to the antibiotics, and in the second to the corticotrophin powder.
- 6. Coincidental with the hay fever and allergic rhinitis, five of our patients suffered with bronchial asthma, which responded favourably to the intranasal corticotrophin; four had troublesome nasal polypi which disappeared with treatment, one had rheumatoid arthritis and obtained a temporary relief during the hormonal therapy, and some improvement was obtained in five patients who, in addition to their hay fever, were suffering from chronic sinusitis.
- 7. The effective therapeutic dose in this group of patients varied from 40 to 100 units daily, and this was given in divided doses of 20 units each. The effective maintenance dosage ranged from five to 20 units daily.
- 8. There was no change in the clinical condition of five patients treated with an intranasal placebo.
- 9. It is apparent from this report that the remarkable relief which was obtained with the use of intranasal corticotrophin was only a temporary phenomenon; the underlying allergic state remained unchanged.
- 10. The intranasal corticotrophin must be adminstered under strict medical supervision with the same care and clinical judgment as if parenteral hormone were given. The possibility of addiction to the "snuff" in patients experiencing euphoria and increased feeling of well-being should be considered; for this reason the intranasal corticotrophin should be supplied in limited quantities only.

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TOTAL PAROTIDECTOMY FOR RECURRENT MIXED TUMOURS OF THE PAROTID GLAND*

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RECURRENCES following primary excision of mixed parotid tumours are common. Recurrence rates are estimated at between 20 and 40%,² this being mainly due to the fact that the tumour has not been completely excised together with the surrounding rim of normal tissue.

Fear of injuring the unexposed facial nerve causes unjustified reliance upon the ability to preserve the capsule of the tumour in its entirety, and surgeons tend to err on the conservative side in view of the damaging effects of a permanent facial palsy. It may be impossible to remove many carcinomas of the parotid gland completely without sacrificing the facial nerve, but in the case of large benign or locally recurrent mixed tumours it is most desirable and possible to preserve the nerve.

This presentation is concerned with the mixed parotid tumour, previously removed, which recurs as masses or nodules enveloped in dense fibrous connective tissue. In such cases, total parotidectomy with preservation of the facial nerve in its entirety demands familiarity with all recognized techniques. The low voltage nerve stimulator has been found to be an invaluable aid in this procedure, allowing identification of all doubtful structures before cutting them and positive identification of nerve fibres.

SURGICAL ANATOMY

The parotid is covered laterally by dense parotidomasseteric fascia which thins out as it approaches the anterior border of the gland, McWhorter,³ and more recently Bailey⁴ have expressed doubt that the facial nerve pierces the true capsule of the gland. They prefer to give to the large superficial lobe and variably sized deep lobe the configuration of a collar button. They have demonstrated in their dissections that, at its division, the two main trunks of the facial nerve cross above and below the isthmus, sandwiched between the two lobes. In exposing recurrent parotid tumours, chief reliance must be upon usually recognizable anatomical landmarks. The first of these, recommended by Janes,⁶ seeks to identify the large main trunk of the facial nerve after its point of exit from the base of the skull via the stylomastoid foramen. The main trunk of the facial nerve then lies between the stylomastoid foramen and the postero-medial border of the gland.

The second anatomical landmark which may facilitate the dissection is the parotid duct and the anterior border of the gland (State⁷). Traction on the ligated and divided duct facilitates identification and dissection of the nerve branches as they emerge from the anterior border of the gland.

A third important point is the cervico-facial division of the nerve. It lies inferior to the gland and may be identified, approximately 1 cm. behind the angle of the mandible, by its relationship to the posterior facial vein which crosses it either in front or behind, just before the vein disappears beneath the anterior border of the sternomastoid on its way to the internal jugular vein (Adson, modified by Byars^{8, 9}).

The deep portion of the gland is wrapped about the external carotid artery and its terminal branches, the internal maxillary and superficial temporal arteries. The posterior facial vein, which is formed by the union of the superficial and middle temporal veins, passes through the substance of the deep lobe of the parotid anterior to the external carotid artery.

OPERATIVE TECHNIQUE

The operative principle is to remove the tumour and preserve the seventh nerve, keeping in mind the fact that nodules of recurrent tumour distort the normal architecture to such an extent that dissection of the gland in each instance becomes an individual problem in the saving of the nerve and its branches. The greatest advance towards this goal has been the use of the low voltage nerve stimulator to identify all branches of the nerve during dissection. When the stimulator is in use, the safe, non-explosive anæsthetic of choice is Pentothal-curare with oxygen, administered via an intratracheal tube. A satisfactory incision extends vertically from the zygomatic process anterior to the tragus of the ear, to a point one fingerbreadth behind the angle of the mandible, to avoid injury to the cervical branch of the nerve, and then forward to the posterior border of the submandibular gland (Fig. 1). The patient is placed with the affected side of the face turned up and draped in such a manner as to expose the whole facial area supplied by the seventh nerve. The response to electrical stimulation of the various branches, as encountered, will be clearly visible.

Skin flaps are widely dissected along the cleavage plane of the capsule of the parotid gland, everted, and sutured back to give maximum exposure of the whole gland, and leave the assistant free to employ the nerve stimulator.

Blunt dissection of the gland substance of the superficial lobe is now commenced, only a mosquito forceps being used with gentle spreading of the tissue to identify the three points previously described: (a) The main trunk of the facial nerve between the stylomastoid foramen and the postero-medial border of the gland, located approximately 2.5 cm. deep to the mid-

^{*}From the Department of Surgery, Jewish General Hospital, Montreal.

point of the anterior border of the mastoid process. (b) The parotid duct and the anterior border of the gland. (c) The cervical branch of the nerve inferior to the gland, identified by its relation to the posterior facial vein (Fig. 1).

Once these points are identified, blunt dissection with a mosquito hæmostat along the course

leation of the deep lobe piecemeal from about the external carotid artery and posterior facial vein is accomplished by gently displacing the facial nerve with a nerve hook. It may be necessary to transect the external carotid artery and posterior facial vein at the inferior border of the deep lobe, the superficial temporal artery and

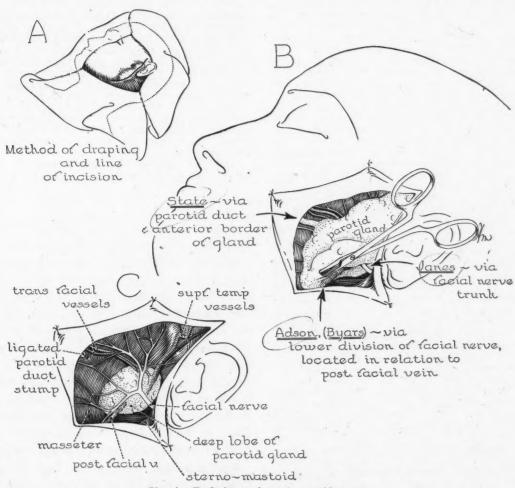


Fig. 1.—Technique of total parotidectomy.

of the nerve and its branches is carried out. This may be done proceeding from behind forward, and from before backward, the divided parotid duct being used for traction. Alternatively, dissection from below upward, utilizing Adson's landmark, may be of value. The choice depends upon the degree of distortion of the gland substance by recurrent tumour, and the relative ease of dissection from any one approach. The procedure must be carried out with great patience and care, and no fibre should be cut without first being tested by the stimulator.

Once the superficial lobe has been freed, it may be removed by transecting the isthmus. The seventh nerve plexus is then exposed and enucvein at the superior border and the external maxillary artery at the mid portion of the anterior border of the deep lobe.

The field is checked for bleeding, the nerve fibres are all checked for function by the stimulator, the area is irrigated with saline and closure is carried out with 000 catgut S/C sutures and 00000 Plastisutes for skin. A small Penrose drain is exteriorized through the lower angle of the incision for 48 hours. Pressure dressing, utilizing sterile plumber's waste, is applied.

CASE 1

Mrs. L.H., age 28, was admitted to the Jewish General Hospital on Nov. 18, 1952. She had had a mixed parotid tumour excised under local anæsthesia at another hospital in 1946. The mass recurred in 1948 and had been growing rapidly and spreading over the whole parotid area since. There was no associated pain. She was a thin, apprehensive female with a large firm, craggy and irregular, nodular, neoplastic mass over the left parotid gland region, consisting mainly of two nodules, one in the superior portion of the gland, the other in the inferior, joined by an irregular ridge. The whole mass was mobile and not fixed to the overlying skin.

Operation.—A pre-auricular incision extending from the hair line to a point one fingerbreadth posterior to the angle of the mandible was made. Skin flaps were undercut and sutured back for adequate exposure. Utilizing mosquito forceps for blunt dissection, the borders of the gland were defined and multiple tumour nodules were noted throughout the gland substance. It was accordingly decided to carry out total parotidectomy. The cervical branch of the facial nerve was first identified crossing superficial to the posterior facial vein. The branches of the nerve were then picked up from the anterior border of the gland at a point where the capsule thinned out, and where blunt dissection was facilitated. Nerve filaments in all instances were identified by the electric stimulator. At this point the main trunk of the facial nerve was dissected out posteriorly and its main superior and inferior divisions identified. With all of the above landmarks identified, careful blunt dissection freed all branches of the facial nerve intact, and the superficial lobe of the gland was removed in one piece. The smaller deep lobe was removed piecemeal. The wound was closed by means of many closely placed interrupted Plastisutes about a thyroid drain exteriorized at the lower angle of the wound. Pressure dressing was applied. Immediate postoperative check showed that the facial

Pathological report.—Sections taken through the gland received revealed masses of salivary gland tissue quite lobulated by numerous surrounding dense envelopes of

lobulated by numerous surrounding dense envelopes of fibrous connective tissue. Within many of these envelopes the usual orderly growth pattern of salivary gland was seen, but within others a complete change of the pattern had occurred. In these latter areas, there was a tumour made up of nests and cords of small uniform, cuboidal to stellate, and at times polyhedral cells, with uniformly-sized vesicular nuclei. These nuclei showed no variation in staining quality and mitotic figures were not encountered; they occurred in irregular nests and in many situations were surrounded by a loose, cedematous, almost myxomatous stroma. At the edges of the obvious epithelial masses, transition forms between epithelial cells and stellate stromal cells could be identified. In other situations within the masses of tumour, acinar differentiation was noted and here some of the acini were filled with pink-staining amorphous material. In all situations where tumour was present and surrounded by a capsule, there was no penetration of either stromal or obvious epithelial cells, through the capsule or into the supporting tissue. In some places stroma was somewhat more hyalinized than elsewhere and, in these hyalinized areas, nuclei were seen surrounded by small halos, giving a superficial resemblance to cartilage, though actual cartilage could not be identified. The formation of tumour foci surrounded by normal orderly salivary gland tissue suggested the possibility of multicentric origin of this tumour.

Diagnosis.—Mixed tumour of parotid gland (Dr. M. A. Simon).

CASE 2

Mrs. F.E.,* age 82, was admitted to hospital on November 29, 1950, at her own request, for the removal of a large tumour mass in the left parotid region. In August 1950, she had undergone a mastectomy for a papillary cystadenocarcinoma of the left breast, and surgical removal of a basal cell carcinoma of the nose. During this previous admission the large, craggy, multi-

*Operated upon while the author was Chief Resident Surgeon, Maimonides Hospital, Brooklyn, New York. lobulated left parotid mass was noted. This was obviously a recurrence of a mixed parotid tumour, which, according to the patient, had been excised four times in the past 34 years.

Procedure.—An incision was made extending from the hair line through the pre-auricular area behind the angle of the mandible to the symphysis menti. Skin and subcutaneous tissue flaps were reflected. The tumour mass was freed by blunt and sharp dissection. Temporal, zygomatic, mandibular and buccinator branches of seventh nerve were clearly identified and stimulated with 3 volt current. The cervical branch had been removed at initial parotidectomy. All tumour tissue was removed to clean parotid bed and submandibular and digastric triangles. Skin flaps were closed by means of interrupted sutures of 000 silk and a small Penrose drain was inserted through the lower angle of the incision. No facial paralysis was noted at the close of operation.

Pathological report.—The nodulated masses examined revealed a marked variation in the epithelial component ranging from acinar structures and solid nests to reticulated networks of polygonal cells. Areas with spindle cells were noted frequently. Areas of hæmorrhage and necrosis were found. Keratohyaline bodies were also noted. The corium was invaded. A lymph node showed no involvement.

Diagnosis.—Recurrent mixed tumour of the parotid gland (Dr. A. Kanterowitz).

DISCUSSION

Mixed tumours of the parotid gland constitute 90% of all tumours affecting this secretory organ. In an extensive series of cases, Willist found that, of those operated upon, recurrence was known to have taken place in 25%. For those patients alive and kept under observation for 5 years, the recurrence rate was 48%, and for those under observation for 7 years, it was 62%.

Liability to recur is mainly due to a too conservative operation initially, but may result from the growth of small, separate satellite tumours, independent of the main one (multiple tumour foci), or the subsequent development of a new tumour from predisposed salivary tissue. Patey¹⁰ points out that just as the bed of mammary tissue around a fibro-adenoma often contains small satellite fibro-adenomatous foci, so the bed of tissue around a salivary tumour may contain multiple potential or actual foci of growth.

The microscopic structure of a salivary tumour is an unreliable guide to prognosis. However, McFarland¹¹ found in his series that in those tumours in which epithelium predominated the recurrence rate was 60%, while in those in which mucinous and stromal tissue were predominant the rate was 38%.

It is generally accepted that benign tumours, as such, do not tend to become malignant. They are probably malignant from their inception, but their rate of proliferation and degree of malignancy may sometimes show more or less abrupt increase.

The high rate of recurrence of mixed parotid tumours make it advisable that total parotidectomy be carried out initially, if possible, but certainly following the first recurrence.

SUMMARY

- 1. The high recurrence rate of mixed tumours of the parotid gland is discussed.
- 2. Total parotidectomy for recurrent mixed tumours is advocated.
- 3. The technique of total parotidectomy is presented. The simultaneous use of all three classical approaches to the gland is recommended to overcome the difficulty of alteration

of anatomical relationships by the tumour growth.

4. The value of the low voltage nerve stimulator is stressed.

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ANOMALIES OF THE SUPERIOR VENA CAVA

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A PATIENT with congenital heart disease, of both clinical and pathological interest, died recently in Westminster Hospital, London, Ont. Although anomalies of the superior vena cava are by no means rare, it was believed that this case has features which are worthy of report.

CASE REPORT

The patient, a man of 43, was first admitted to West-minster Hospital, six years before he died. His complaints at that time were of shortness of breath and precordial ache, both occurring with exertion, and easy fatiguability.

He had led a normal, active life until 1944, when he developed shortness of breath with exertion, while with the Canadian Army in Italy. Examination at that time revealed no abnormalities, and he returned to

At the time of the first examination in this hospital, his blood pressure was 110/70 in both arms, and no cardiac murmurs were noted. The chest radiograph revealed prominence of the vascular tree in both lung fields. The cardiac shadow appeared normal. The electrocardiogram showed right axis deviation. The man's symptoms improved with rest in bed, and he was disched from hospital for follow up in the cardiog division. charged from hospital for follow-up in the cardiac clinic.

He was readmitted five years before death because of a progression of his symptoms; namely, increasing exertional dyspnœa and frequent, aching pain in the precordium, occurring with effort. Examination showed a cyanotic tinge of the lips, ears and fingers. The blood pressure was 105/80 mm. in both arms. The heart was not enlarged clinically. The cardiac rhythm was regular, except for an occasional ventricular extrasystole. No murmurs were noted. The neck veins were not engorged; the lung fields were clear on auscultation, and the liver was not palpable. There was no peripheral cedema. The chest radiograph showed evidence of pulmonary emphysema, prominence of the pulmonary conus, and accentuation of the pulmonary vascular tree. The last was more marked than at the time of first admission. The electrocardiogram was unchanged, still showing right

axis deviation. Fluoroscopy confirmed enlargement of the main pulmonary trunk. The heart, however, did not appear enlarged. Cardiac catheterization was performed by the method of Johnson. On one insertion the catheter passed through the subclavian vein and the superior vena cava, directly into the right lung. Catheterization of the right auricle, ventricle and pulmonary arteries did not reveal any other structural abnormalities. The pressure and oxygen saturations (by the method of Roughton and Scholander²) which were determined at the time of catheterization are tabulated below:

Pressure		Oxygen saturation
	(of water)	15.8 vol. %
0.0		16.9 vol. %
11.0 cm.		16.9 vol. % 15.9 vol. %
28.0 cm.	,	16.0 vol. %
19.3 cm.		19.6 vol. %
		8.7 vol. %
	1.5 cm. 0.0 11.0 cm. 28.0 cm.	1.5 cm. (of water) 0.0 11.0 cm.

These findings were interpreted as consistent with an anomalous venous connection between the right lung and the superior vena cava, and possibly an interauricular septal defect.

The man was followed up at regular intervals in the cardiac clinic until his final admission one month before death. His physical condition had deteriorated to the point where he had marked exertional dyspnœa; he was orthopnœic and unable to walk more than a few steps without resting.

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On August 21, 1952 an operation was performed. Four anomalous veins were found draining the upper lobe of the right lung to the superior vena cava. A large vein was found arising from the junction of the superior vena cava and the right auricle. This vein passed posteriorly and downward behind the heart. Due to technical difficulties at the time of operation, this vein could not be traced to its termination. The four pulmonary veins from the right lung to the superior vena cava were ligated. The patient began to show signs of shock, and further operative intervention was considered inadvisable. The operative wound was closed and the patient returned to the ward. He did not recover from shock, and died two hours postoperatively.

vein was formed by a union of all pulmonary veins and was several centimetres in length.

was several centimetres in length.

Marked emphysema was seen throughout both lungs.

Many large bullæ were present. Dissection of the pulmonary arteries revealed a marked degree of atherosclerosis. There was considerable dilatation of these vessels. Multiple thrombi, both old and recent, were found in the smaller branches of the pulmonary arteries. There was considerable hyaline thickening of the intima of the pulmonary arterioles. Chronic passive congestion and heart failure cells were found in the left lung and in the right lower lobe. The immediate cause of death was extensive hæmorrhagic infiltration of the upper and middle lobes of the right lung. The right lung weighed 2,050 gm. and the left weighed 635 gm.

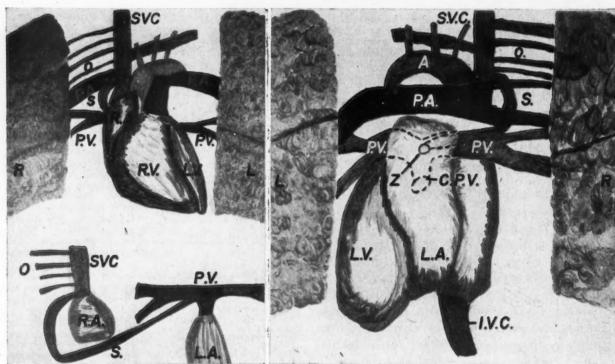


Fig. 1

Fig. 2

Fig. 1.—Diagrammatic representation of the thoracic organs from the front. The four anomalous veins (O) draining the right upper lobe to the superior vena cava are seen. The lower diagram shows the anomalous vein (S) joining the superior vena cava and the common pulmonary vein. Fig. 2.—The posterior aspect of the heart, great vessels and the lungs. The four anomalous veins (O) draining the right upper lobe to the superior vena cava are again seen. The anomalous vein (S) joins the superior vena cava to the common pulmonary vein, and enters the latter at (Z). A—aorta; R—right lung; L—left lung; RV—right ventricle; PA—pulmonary artery; LA—left auricle; RA—right auricle; PV—pulmonary veins; O—four anomalous veins draining the right upper lobe to the superior vena cava; LV—left ventricle; SVC—superior vena cava; IVC—inferior vena cava; CPV—common pulmonary vein; S—anomalous vein joining the superior vena cava to the common pulmonary vein; S—where S empties into CPV.

Autopsy report.—The pathological findings were confined to the chest. The heart was hypertrophied and weighed 450 gm. The hypertrophy was predominantly right ventricular, the wall of this chamber measuring 1.3 cm. in thickness. There was marked dilatation of the right ventricle. No anomalies of the great vessels, interventricular or interauricular septa were found. The heart was not rotated. The valvular orifices were not deformed in any way. The four veins from the right upper lobe to the superior vena cava were identified (Fig. 1).* These had been ligated with white cotton sutures at operation. The large venous trunk, which was seen at operation to arise from the lower end of the superior vena cava, was found at autopsy to pass to the right, downward and behind the heart (Fig. 1). It emptied into a common pulmonary vein, just before the latter entered the left auricle (Fig. 2). The common pulmonary

DISCUSSION

A review of the literature revealed only one case that was similar to our own. Töpley,³ in 1882 observed a case in which the superior vena cava was bifid. One branch terminated in the right auricle and the other passed to the right and behind the heart to enter the left auricle. McCotter,⁴ reported three cases of persistent left superior vena cava. In the first, it terminated in the right auricle. In the second, it terminated in the right auricle, but communicated with the cavity of the left auricle by a large foramen. In the third case, the left superior vena cava termi-

^{*}These are photographs of paintings of the autopsy findings.

nated in the left superior pulmonary vein. The same author also mentions that up to 1916, 11 cases had been reported in which there was a communication between the left pulmonary veins and a persistent left superior vena cava. Persistent left superior vena cava, by no means uncommon, has been found in three of 20 cases of congenital heart disease in Westminster Hospital.5

Taussig⁶ describes three types of anomalies of the great veins. In the first, part of the pulmonary circulation, usually from the right lung, is returned to the right auricle. This of course, has to be associated with a patent foramen ovale to be compatible with life. In the third type, both the inferior and superior vena cava empty into the left auricle. The return of all the pulmonary circulation to the right auricle may occur in one of three ways. The pulmonary veins may terminate in a persistent left superior vena cava, and blood may pass up and across the innominate vein and down the right superior vena cava to the right auricle. On the other hand, the pulmonary veins may empty into the coronary sinus, or directly into the right auricle itself.

McManus,7 has reported a case of persistent left superior vena cava, into which the pulmonary veins emptied. Through the anastomotic innominate vein, the pulmonary circulation was returned to the right auricle. Other authors have reported similar cases.8 to 12 A left superior vena cava is the result of persistence of the left precardinal vein of the embryo.

In our case there was no left superior vena cava. There were, however, two anomalies. One was an independent venous drainage from the upper lobe of the right lung to the superior vena cava; the other was a venous trunk uniting the termination of the superior vena cava and the common pulmonary venous trunk. It is interesting to speculate that the last anomaly might be the result of a bifid right superior vena cava.

When the body is at rest, especially in the sitting position, the respiratory exchange of gases between both the environment and pulmonary circulation in the upper lobes of the lungs is minimal. Respiration occurs mainly in the lower lobes. The pulmonary circulation in the upper lobes is consequently much reduced. However, with increased physical activity, the function of the upper lobes is greatly increased and the pulmonary venous return from these lobes is greater. In our case, the increased venous return from the right upper lobe would be emptied into the right auricle through the four anomalous veins and the superior vena cava. The normal venous return, augmented by that from the right upper lobe, would produce an increased right ventricular diastolic filling and compensatory dilatation and hypertrophy of the right auricle and ventricle. There would be a resultant increased right ventricular output and pulmonary hypertension. The pulmonary hypertension produced dyspnæa, and the resultant hyperpnæa gave rise to pulmonary emphysema. The latter would further augment the pulmonary hypertension by increasing the peripheral resistance. The elevated pulmonary arterial pressure would produce the pulmonary arteriolar sclerosis and the dilatation of the main pulmonary arteries.

It is interesting to note that this man had no symptoms referable to his cardiovascular system until the age of 43. With a congenital venous anomaly of this duration, which produced pulmonary hypertension, it seems remarkable that symptoms did not appear at an earlier age. In fact, at the time that his symptoms first developed, he was performing vigorous commando combat duties in Italy. He never manifested right heart failure. The anomalous venous shunt between the right and left sides of the heart undoubtedly prevented the development of right ventricular failure. As the pressure rose in the superior vena cava, there was a shunt of blood from this vessel through the anomalous vein to the pulmonary veins and left auricle. This would tend to keep the systemic venous pressure reduced.

During the patient's clinical course, periods of slight cyanosis were observed. It is postulated that this was caused by this shunt mechanism during periods of physical exertion. Blood from the superior vena cava, which was only partially aerated from the right upper lobe venous return, would enter the systemic circulation.

Operation had been considered at the time of catheterization, but was deferred for several reasons. The patient was quite comfortable if he restricted his activities within his physical tolerance. Although one congenital venous anomaly had been demonstrated it was impossible to determine whether this was single, or one of multiple venous anomalies. It was originally believed that the catheter had passed from the superior vena cava through an anomalous vein into the right lower lobe. From the autopsy and operative findings, it must have passed into the right middle lobe or the basilar portion of the right upper lobe. From the catheterization studies, the oxygen saturation of the blood in the superior vena cava and the right auricle was found to approximate that of arterial blood. This was accounted for by the oxygenated venous return from the right upper lobe.

Preoperatively, the opinion was held that there was an abnormal venous return from the lower lobe of the right lung to the right side of the heart. As previously stated, this produced an increasing right heart strain and increasing pulmonary hypertension. The symptoms had become progressively worse. Therefore, it was believed that ligation of the anomalous vein and right lower lobectomy with the objective of relieving this right heart strain would reduce the venous return to the right auricle. However, at operation, the pulmonary venous return to the right auricle was found to come from the right upper lobe. Because of the technical difficulty involved in approaching the hilus and the main pulmonary arteries, and tracing the course of the anomalous shunt, it was first necessary to ligate the anomalous veins from the right upper

SUMMARY

A case of anomalies of the superior vena cava and the pulmonary veins is reviewed and discussed. An independent venous return from the upper lobe of the right lung to the superior vena cava was found, and an anomalous venous channel was demonstrated between the main pulmonary veins and the superior vena cava. The first anomaly produced an increased venous return to the right heart on physical exertion, with increased right ventricular output and pulmonary hypertension. The second probably shunted systemic venous blood to the left auricle and helped to keep reduced an increased pressure in the superior vena cava.

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MODERN CONCEPTS OF AUTONOMIC NERVOUS SYSTEM ANATOMY AND THEIR SURGICAL APPLICATION*

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MODERN ADVANCES in the field of autonomic nervous system anatomy, associated with rapid increase in their surgical application, have resulted in a welter of divergent opinions, extending from those whose enthusiasm is almost unlimited to those who feel that this section of the nervous system lies entirely within the medical province. The large number of publications

following in the wake of this resurgence in surgical interference in the autonomic system, praiseworthy as a whole, but woefully misleading in parts, have done little to establish a common factor of thought on the subject. Despite the strengthening of the medical position by the advent of newer and more powerful sympathetic drugs, there can be little doubt that autonomic system surgery, performed in keeping with recent anatomical and physiological advance, has established for itself a definite niche in modern surgical practice. Able and intensive research carried out by Kuntz,1 Mitchell,2 Goetz,3 Smithwick and White,4 Saccommana6 et al., provides a decidedly clearer picture of many sections, but there still remain many uncharted and unexplained areas in the sympathetic system, the importance of which, at this time, cannot be estimated. It is in these areas that extreme caution in surgical interference must be observed if earlier failures are to be avoided and if disrepute is not

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to be brought upon an otherwise valuable addition to the surgical armamentarium. It seems unfortunate that a substantial portion of these important additions to our anatomical knowledge has not been brought into the focus of all who are interested in performing this type of surgery. In consequence many must, perforce, predicate their technique on older, disproved anatomical teachings.

Intensive study of the history and statistics of surgical interference with the sympathetic nervous system leads to the unequivocal conclusion that a great percentage of truly recorded failures, past and present, can be directly attributed to two basic fundamental factors. Firstly, lack of knowledge of anatomical distribution and non-recognition of proven physiological principles; secondly, the natural urge to extend surgery into unproven fields, as a follow-up to the sometimes hasty glowing reports of success in the proven fields.

LUMBAR SYMPATHETIC SYSTEM

At this date, lumbar sympathetic surgical interference is far in advance of all other procedures. With the overall increase in our knowledge of the anatomy of this region, and the rapidly enlarging list of indications for this operation, a complete reorganization of the incorrect and misleading nomenclature now in use appears timely. Exact definite reports of removal of stated ganglia numerically, reports which stretch the anatomical truth, and are not possible surgically in view of present day anatomical findings, cannot be justified in present or future publications. Correlating the work of Lowenberg,5 Cowley,7 Mitchell² et al., with our own, three fundamental concepts have formed the basis of our studies: (1) That it is no longer correct to describe the lumbar sympathetic system as a bilateral chain containing five discrete and distinguishable ganglia. (2) That ganglia demonstrated in this system cannot be identified by their location in regard to lumbar vertebræ, or by the direction of their rami. (3) That though the lower limit of sympathetic outflow is generally agreed to be at L2, the number of demonstrable by-paths, and the fact that outflow components from below L2 have been demonstrated in almost 30% of dissections, materially reduce the importance of this level in surgical procedure.

Compared to the strands of the lower thoracic sympathetic chain (see thoracic section below), the

upper lumbar chain between the first and second ganglia is thick and sturdy and may be doubled or triplicated. Below this level, though some thickened fibres may suggest a chain, repeated dissection reveals a disorderly array of fibres of varying sizes, extending down to the iliac vessels. Interspersed among these fibres are found one to eight ganglion masses varying in size from a pinhead to normal ganglion size. Lowenberg⁵ describes these masses as "long or fat ganglia," according to the variation in their shape and size. These ganglia are rarely solitary and are mostly found as indeterminate conglomerate masses. We agree with Lowenberg⁵ that these conglomerations are most commonly found opposite the lower angle of the third lumbar vertebra. A large number of smaller branches pass from all ganglia and from the intervening fibres to a dense preaortic plexus which lies in the adventitia of the aorta and is continuous above with the lower thoracic plexuses, and below with the pelvic plexuses. There is now definite evidence that numerous branches pass from one side to the other. There is also constantly present at the outer edge of the main lumbar network a peripheral plexus of very fine intercommunicating fibrils, which extends from above the first lumbar ganglion to the iliac vessels. The importance of these preaortic and peripheral plexuses lies in the fact that they contain by-passing fibres, which if not removed may in part supply the answer to unsuccessful lower limb denervation. Combining the above, the lumbar sympathetic system can now, in our view, be described as consisting of three intercommunicating areas, each of importance in successful surgical technique.

1. A central or preaortic plexus extending from the intercrural space to the iliac vessels, loosely connected with the adventitia of the aorta. Small ganglia have been demonstrated in this plexus.

2. An intermediate plexus consisting of the trunk or trunks between the first and second lumbar ganglia and below this level an intricate network extending to the iliac vessels containing one to eight single or fused ganglia.

3. A peripheral plexus of multiple fine fibrils extending throughout the whole length of the lumbar plexuses. No ganglia have been demonstrated here.

Differences in size and location of the first lumbar ganglion may account for the difficulties encountered by many surgeons in finding and identifying it. We do not agree with Kuntz,¹ and Thorek²¹ that ganglia can be identified by the direction of their rami communicantes, firstly because of technical difficulties in accurately following them during dissection, and secondly

because all observers are agreed that there may be from one to six rami arising from each ganglion. These rami unite in haphazard fashion so that any sense of direction is nullified. Contrary to the description given in many textbooks the first lumbar ganglion is rarely found opposite the first lumbar vertebra. Its most common location is over the lateral part of the intervertebral disc between the two vertebræ. Its size varies from three to eight mm. in length and from two to four mm. in breadth. Its shape is completely inconstant. The thoracic chain reaches the ganglion in three different positions, listed according to their frequency found in dissections as: (1) under the crus of the diaphragm; (2) between the medial lumbo-costal arch and the crus; (3) directly through the crus. Cowley and Yeager,7 Mitchell,2 and Lowenberg5 have all confirmed these findings.

Fusion of what anatomically proves to be the second and third lumbar ganglia is a common finding. These fused ganglia are found either at the lateral end of the disc between the second and third lumbar vertebræ, or, more commonly, opposite the lower lateral angle of the body of the third lumbar vertebra. Conglomerate or single ganglion masses which have heretofore been called the fourth and fifth lumbar ganglia may be found in any location as far down as the iliac vessels, and in many dissections are absent. It must therefore become obvious that mistakes in the enumeration of ganglia, removed surgically in operations of identical scope, without doubt account for differences in results. Mention has been made by many authors of the ever-present intermediate ganglia as accounting for differing results in identical operations. These ganglia, formed by migrating cells from the neural tube, which fuse and form small ganglion masses, may be found anywhere from the ventral spinal nerve roots to the rami communicantes. They are more numerous in the lumbar and cervical regions, and may not form part of the regular sympathetic chain, in that they form synapses which may by-pass it. In view of the tremendous number of completely successful lumbar sympathectomies, and the minute portion of the anatomical set-up formed by these ganglia, we find it difficult to agree with Mitchell² that their non-removal could account for partial failures in apparently complete operations.

An evaluation of the anatomical factors discussed above tends to the conclusion that a more radical approach to lumbar sympathectomy becomes necessary for complete lower limb denervation. To all engaged in this field, failures, especially in earlier procedures, have been far too frequent. Though it must be accepted that many were due to the wide differences of opinion as to indications for the operation, and the relative importance and significance of the numerous tests recommended as criteria for successful sympathectomy, incomplete anatomical denervation emerges as the main cause of failure. It has been our practice to follow each proven advance by removal of the segment reported upon. There remains little doubt that significant improvement of results has followed removal of all segments now known to be part of the lumbar system. Lumbar sympathectomy must therefore comprise: (1) Removal in toto of the entire intermediate plexus from above the first lumbar ganglion to the iliac vessels. Though the sexual mechanism must be considered in bilateral removal of this ganglion, unilateral removal has no deleterious effect. Though many may raise the old bugaboo of post-ganglionic resection in this type of operation, it is now generally conceded, by Smithwick and White,4 and many others including the author, that post-ganglionic changes, frequently mentioned as the main cause of upper limb denervation failure, have never been observed to occur in the lower limb. (2) Complete removal of the preaortic plexus. (3) Removal of all visible portions of the peripheral plexus and as great an extent of the rami communicantes as is anatomically possible.

Increased warmth of the whole limb should be evident within six hours of surgery. Delayed warming tapering off towards the foot is definite evidence of incomplete denervation.

Though there still remain wide differences of opinion as to indications and preoperative tests for lumbar sympathectomy, we feel that definite standards are within our reach, and a report on this subject is now in preparation.

THORACIC SYMPATHETIC SYSTEM

Although thoraco-dorsal sympathectomy is being widely performed, grave doubts must exist in many minds as to whether it is the answer to hypertensive problems, except in selected cases in the younger age groups. Close personal study of all available follow up reports in the older groups indicates clearly that this procedure can only, at its best, be considered as a temporary

solution to a most difficult problem. The everchanging methods and extent of procedure, ranging from almost complete thoracic chain denervation to attack upon the adrenals, bear mute testimony to the unsettled state of our knowledge of the part played by the sympathetic system in hypertension. Under these circumstances, we have no quarrel with those who perform the operation on patients of all age groups, and even in the face of cerebral accidents, who postulate that the relief of symptoms without decrease of pressure make this extensive surgery worthwhile. Present and future intensive research will undoubtedly evolve other methods of attack.

As opposed to the above, we firmly believe that surgical interference for the relief of anginal and other intractable pain will become an established procedure. This is not, by any means, of recent origin. It was first suggested by Frank in 1899. Leriche, 22 Coffee and Brown, Learmonth, 11 Cutler. 10 and Smithwick and White4 all played a great part in its history. The continuous flow of successful results contained in reports by the above and many others have resulted, in the past few years, in a definite trend towards two objectives: (1) A protracted and intensive study of cardiac sympathetic innervation, with a view towards increasing the efficacy of surgical intervention. (2) Efforts to formulate a simpler and more rapid technique for cardiac sympathetic denervation, so as to allow these seriously sick patients to undergo the procedure with a minimum of risk.

As in the lumbar region, textbook descriptions are inadequate and of little assistance to those who would perform this and other thoracic sympathetic procedures. We cannot conceive of a comparable situation in which a thorough and accurate knowledge of modern anatomical findings is more necessary to successful accomplishment, Smithwick and White,4 Page20 et al. whose reports of surgical success have so enriched this field, present only a summarized version of the important sympathetic components of cardiac innervation. DeBakey et al.,12 in their excellent article on splanchnic denervation, do not evaluate the anatomical entities which have led to their strikingly successful results.

The thoracic sympathetic chain in its arrangement of trunk and ganglia follows a definite segmental schema, not found in the lumbar system. Twelve discrete ganglia are rarely found, since the first ganglion is commonly fused with the

inferior cervical ganglion to form the stellate ganglion. Less than 10 ganglia bilaterally have not been described. The interganglionic trunks. often doubled or triplicated, are thick and prominent in the upper thorax, but when approaching the diaphragm become very fine and difficult to distinguish. This is an important point to remember in thoracic sympathetic procedures. Rami communicantes in the thoracic region vary from two to four from each ganglion, and follow a haphazard arrangement of uniting with each other and by-passing. This has been well described by Mandl,19 and confirmed by Mitchell.2 Textbooks incorrectly state that all intercostal vessels pass posteriorly to the chains. Repeated dissections demonstrate that from one to three intercostal vessels pass anteriorly to the chain on each side and unless watched for can cause troublesome bleeding. The azygos vein on the right and the superior and inferior azygos veins on the left are constant in their relationships to the chains and should not cause any trouble during surgery. Though far less numerous than in the lumbar system, fine intercommunicating fibrils are found to the lateral side of the chain. Intermediate ganglia have not been demonstrated in the thoracic chain.

Peet,13 Adson,14 Goetz,3 Smithwick and White,4 and others have laid repeated stress upon complete splanchnic denervation in surgical procedures for hypertension. Whether one agrees or disagrees with the surgery in question, one finds little reference in their publications to recent important findings in splanchnic anatomy, reported by Mitchell,2 Kuntz1 and others, although it appears self-evident that such knowledge is essential to those engaged in performing or training for this type of procedure. Thorough study of these findings impels one to agree with Mitchell² in suggesting a new nomenclature to replace the completely unsatisfactory-greater, lesser, least splanchnic nerves-now in use. He uses the terminology-superior, middle, inferior splanchnics. We would further suggest a composite splanchnic nerve system with Mitchell's subsections.

Superior (greater) splanchnic nerve. - Cunningham, in his textbook of anatomy, describes a single trunk nerve as follows:

Arising from branches from thoracic 5 to 10, a nerve of considerable size is formed, which descends in the posterior mediastinum, and piercing the crus of the diaphragm at once joins the anterior end of the celiac Though the major branches of this nerve arise as above, recent work demonstrates constant branches arising from thoracic 3 and 4. Mitchell describes branches from as high as thoracic 2. Others have described branches from 11 and 12, which we believe are uniting branches of the lower two splanchnic nerves. Present studies show that it is very uncommon to find this nerve as a single trunk, but that the numerous branches may reach their termination in the following ways: (a) continue as separate nerves as far down as the diaphragm; (b) unite at differing levels in the mediastinum; (c) unite with the middle and inferior splanchnic nerves to form a single trunk (Fig. 1). Multiple smaller com-

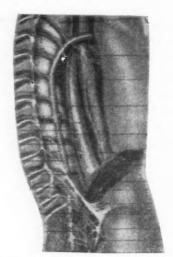


Fig. 1.—Common splanchnic trunk. (Courtesy Prof. Mitchell).

municating branches passing to the pulmonary, aortic and esophageal plexuses are constant, thus constituting a definite by-pass area from the higher thoracic levels to the preaortic plexus subdiaphragmatically.

Middle (lesser) splanchnic nerve. — Though heretofore described as a single nerve, it is extremely rare to demonstrate an entity. Where found as a single trunk it enters the abdomen medial to the sympathetic chain and enters the aortico-renal and renal plexuses. The most common dissection finding is that the nerve rises from thoracic 9, 10 and 11, and that these three branches unite at varying intervals, to join the superior splanchnic nerve.

Inferior (least) splanchnic nerve.—We agree with Mitchell that this nerve arises from the last thoracic ganglion, and is often, though not always, the smallest of the three splanchnic nerves. It enters the abdomen medial to the sympathetic chain, and ends in the posterior

renal ganglion and the adjacent part of the renal plexus. It is not always present, and some deny that it exists, stating that it is really a lumbar splanchnic nerve. This is definitely in error, for in 18 out of 23 dissections² it coexisted with a lumbar splanchnic nerve on one or both sides. It must be emphasized that all branches from the lower thoracic segments, though they do not significantly vary in number, show great freedom of choice of pathways into the above nerves, giving rise to individual variations in size in these lower two splanchnic nerves.

Mention is made here of the para-aortic nerve, the presence of which has been confirmed by many dissectors. It is found in about 10% of dissections, mostly on the left side. It lies on the postero-lateral aspect of the descending aorta, intercommunicating thoracic, cardiac, pulmonary and æsophageal branches of the sympathetic trunks. It enters the abdomen through the aortic hiatus and ends in the celiac plexus. When present, it may form an important alternate pathway of sympathetic impulse.

From the above, it can therefore be readily seen that the description of removal of separate splanchnic nerves, common in almost all published surgical sympathetic procedures, is definitely incorrect. This intricate splanchnic system of variable and intercommunicating branches is in sharp contrast to the paucity of information found in textbooks, and even in publications which deal in their entirety with surgery of the autonomic nervous system. It also sheds much light on the many failures in splanchnic resection, and fully confirms the stand made by Goetz³ that the sympathetic chain must be removed as high as thoracic 2 in splanchnic denervation. Though some have claimed partial or complete success in subdiaphragmatic splanchnic resection, it now appears that this operation is untenable. Further fuel has been added to the controversy existing about the surgical treatment of hypertension by the scattered reports of those who are performing complete adrenal denervation for hypertension. This and other reported procedures, all of them prolonged and serious in nature, when considered in the light of disappointing follow-up reports, strengthen our belief that we are still a long way from the answer to surgery for the relief of hypertension.

Cardiac innervation.—If any section of surgical interference with the autonomic nervous system is to remain a permanent facet in surgery, there

is little doubt that it will be for the relief of intractable pain. Here, it can truly be argued that the relief from pain, accompanied by the marked change in mental attitude and comfort of the patient, amply offset the fact that nothing is being done for the underlying pathology. Though, as stated above, surgical interference for the relief of anginal pain has been extensively reported, little effort has been made to bring the newer concepts of cardiac innervation to general attention. Description of the origin, course and distribution of the cardiac nerves, still follows a pattern set by the older textbooks. Scant mention is found of the recent findings made by Kuntz,1 Mitchell, Saccomanno, Nettleship and others, advances which are of the utmost importance in predicating simpler modes of approach to the cardiac nerves, together with complete sympathetic denervation.

Efferent cardiac sympathetic innervation. -Here once more a composite study of all the newer advances presents a picture far different from the simple anatomical entities presently taught.

Superior cardiac sympathetic nerve. - This nerve, which has its origin in several branches from the superior cervical ganglion and cervical chain, loses its identity as a pure sympathetic entity when it is joined, soon after its origin, by several branches from the superior vagal cardiac nerve. Throughout its course it forms a definite intercommunicating plexus with the phrenic, vagus, pharyngeal, superior and recurrent laryngeal nerves. This series of cervical intercommunications has been termed the "cervical sympathetico-phrenic-vagal circle," in a previous publication.24 Nettleship has confirmed the finding of numerous vagal communicating branches on the left side but has failed to demonstrate them on the right.

Middle cardiac nerve.—This nerve arises by one or more branches from the middle cervical ganglion and sympathetic chain. It is usually joined by the middle vagal cardiac nerve on one or both sides. It is the largest of the sympathetic nerves and intercommunicates freely with the tracheal, œsophageal and thyroid plexuses.

Inferior cardiac nerve.—Most observers agree that this nerve is rarely found as an entity. Most dissections disclose numerous small branches originating in the stellate ganglion and ansa subclavia. These branches unite with many vagal

filaments to form an intricate plexus before entering the cardiac plexuses.

Therefore it becomes obvious that the present description of these cardiac nerves as sympathetic is in error.

Afferent cardiac sympathetic nerves.—Kuntz¹ in his able work on the autonomic nervous system provides a most important contribution to our knowledge of pain impulses from the heart and their mode of transmission. It is postulated at this time that cardiac impulses carried through the vagus do not reach the threshold of consciousness but do elicit vasomotor responses, although all authors agree that afférent impulses are carried by both vagus and sympathetic nerves. White, Garrey and Atkins,25 reporting on



Fig. 2.—Posterior thoracic cardiac plexus showing branches from ganglia 6 and 7.

their experiments, conclude that cardiac vagal impulses do not give rise to pain. They are in agreement with the majority opinion that cardiac impulses which result in pain are conducted into the central nervous system solely by afferent fibres in the sympathetic system. The exact distribution of these afferent fibres in the sympathetic system assumes great importance in cardiac denervation for the relief of anginal pain. Anatomically, it is now an accepted fact that all sympathetic cardiac nerves except the superior cardiac nerve carry afferent fibres. Though most observers agree that the greater part of these afferent impulses is carried by the thoracic cardiac branches, there is still some disagreement as to the level of the lower limit of inflow into the thoracic sympathetic chain. A majority of opinions favour the fifth thoracic

ganglion as the lower limit. We agree with those who believe that cardiac fibres arise as low as the seventh thoracic (Fig. 2).

Thoracic sympathetic cardiac innervation. — Reports of dissections in this area are in definite disagreement with standard descriptions of thoracic cardiac innervation by single definable branches. All agree that a variable number of multi-sized branches arise from the upper thoracic ganglia and chains. These branches intercommunicate freely and form a fine plexus before entering the cardiac plexuses proper. We suggest the term "posterior thoracic sympathetic cardiac plexus" to replace the thoracic cardiac nerve terminology. It appears to us, in view of the above, that a terminology which describes the anatomical picture in clearer fashion is indicated. The following is suggested:

1. Superior sympathetico-vagal cardiac nerve—consisting of branches from the superior cervical ganglion and chain and branches from the upper portion of the vagus nerve. This nerve does not carry afferent sympathetic impulses.

2. Inferior sympathetico-vagal cardiac nerve—consisting of branches from the middle and inferior cervical ganglia and the ansa subclavia and chains and middle and inferior vagal cardiac branches, also carrying afferent sympathetic impulses.

3. Thoracic sympathetic cardiac plexus—consisting of branches from the upper thoracic ganglia and chain, carrying the major portion of afferent impulses.

The condition of anginal patients has naturally resulted in efforts directed towards a simpler and less time-consuming procedure in cardiac denervation. Mention is made at this juncture of paravertebral block with alcohol, as recommended by Mandl¹⁹ and others. There can be no doubt of the relief afforded by this procedure, but follow-up reports show that pain recurs after comparatively short periods. Ensuing alcoholic neuritis, which occurs in a goodly percentage of cases, proves severe and intractable.

Furthermore, in keeping with anatomical distribution, infiltration must be wider in scope and therefore more subject to complications. We believe this procedure should be reserved for those patients whose condition completely precludes surgery. In search for a simpler operative procedure, we agree with Lahey¹⁷ that wide opening of the thoracic wall is no longer necessary.

Although reports of denervation in the tachycardias and other rhythm abnormalities are becoming more frequent, we believe firmly that any extension of interference in the cardiac sympathetics should await further results of research into the anatomy and physiology of the superficial and deep cardiac plexuses and kindred intracardiac mechanisms.

UPPER LIMB INNERVATION

Despite the increasing attention given to this section by many workers, it still remains a field of divergent opinions, extending through anatomical, physiological and surgical concepts. With this in view, it seems prudent to examine closely the causes of failure in upper limb denervation, as postulated by the various authors. Smithwick and White,4 Telford26 and others, have in their reports laid great stress upon rapid regeneration in sympathetic nerve tissue. The intermuscular implantation of the divided sympathetic trunk, as recommended by these authors, is a direct outcome of this rapid regeneration theory, for which we fail to find corroborative evidence. These authors further state that they believe the failure of upper limb denervation could not be explained on the basis of incomplete denervation, or by the fact that vasomotor tone is greater in the lower extremity. Neither could it be explained by assuming that local fault is greater in the upper extremity. From the physiological point of view, they postulate that increased adrenaline sensitivity in the upper limb may be a cause of failure.

Sheehan,26 though not discounting rapid regeneration, feels that further consideration of sympathetic nerve supply to the blood vessels is indicated. Geohegan and Aidar27 offer the interesting suggestion that recovery of sympathetic tone may be due to reorganization of function within the sympathetic system itself. They state that the first thoracic nerve, which ordinarily carries no vasoconstrictor fibres, may develop such function after the usual pathways have been interrupted. Many, including ourselves, agree that this may occur, but we fail to correlate this with the extensive return of sympathetic function that occurs in many cases within a short period after surgery. Goetz2 reviewing the above, states that he is not in agreement with these theories. He places strong emphasis on incomplete anatomical denervation. He points out that even with Smithwick's reported complete preganglionic denervation of the upper limb, late results do not compare favourably with the same procedures in the lower limb. We strongly agree with his finding that sympathectomized vessels still react with constriction to the application of cold, a fact many authors fail to take eognizance of. It is evident, therefore, that the appearance of Raynaud phenomena following the application of cold cannot be construed as failure of denerva-

Though it is impossible to eliminate any of the theories propounded above, we feel, in agreement with Goetz,3 that incomplete anatomical denervation is the main basis of failure. Adding to Geohegan's theory, we suggest that sympathetic fibres discovered within short periods after surgery are not regenerated, but represent overgrowth of by-passing and other fibres not removed at operation.

Since, up to the present, there has been no satisfactory answer to this problem, further research into the innervation of the upper limb becomes mandatory. Recent findings by Kuntz,1 Kirgis and Kuntz⁸ and Mitchell² have been of material assistance in describing definite bypassing branches to the upper limb, not heretofore considered in denervation procedures. Kuntz describes a large branch passing from the second thoracic ganglion directly to the brachial plexus, and in a later publication describes a further branch from the third thoracic ganglion to the brachial plexus. We agree with Goetz³ that further branches arise from the fourth thoracic ganglion, and follow his recommendation that upper arm denervation should include the second, third and fourth ganglia. Though Goetz agrees with De Takats18 that upper limb denervation be extended to include the inferior and intermediate cervical ganglia, we fail to see how this procedure can be correlated with accepted sympathetic outflow anatomy.

Stellate ganglion.-Surgical interference with this structure enjoyed a great vogue in the earlier days of surgery of the sympathetic system. Advances made in study of the anatomy and distribution areas of the ganglion have resulted in almost complete cessation of surgical removal of this structure, especially as a means of securing cardiac or upper limb denervation. Renewed interest has followed the many reports of results achieved following stellate ganglion block in the early stages of cerebral accidents, excluding massive cerebral hæmorrhage. From considerable personal experience we are convinced that some of the results accomplished could not have occurred, as is claimed by some authors, in the normal course of events. The rapid return to consciousness, and the early return of movement in hemiplegia, following a good number of stellate blocks, are rarely seen in the cases allowed to run their normal course.

A thorough knowledge of the exact location and anatomy of this ganglion is a sine qua non in successful blocking. Its relations to the cervical fascial planes, the pleura, and adjacent vertebræ are of prime importance. Many anatomists report that this ganglion is insufficiently described as a partial fusion of the inferior cervical and first thoracic ganglion, lying opposite the neck of the first rib and behind the subclavian artery. Its true position is in the space between the last cervical transverse process and the upper border of the neck of the first rib. It is posterior to the vertebral artery and the first part of the subclavian artery, and its lower portion is just medial and posterior to the upper portion of the internal border of the dome of the pleura. The relation of the ganglion to the subclavian artery is much closer on the left side. Its shape varies with the amount of fusion between the two ganglia. All variations are found from the more common dumbbell shape to completely separate ganglia. Noteworthy in all dissections is that the upper portion of the ganglion is always in the vertical axis, while the lower two-thirds bends laterally at an angle of thirty degrees, and lies on a definitely anterior plane. Often forgotten and yet of import in explaining temporary upper limb denervation following stellate block, is that the ganglion lies in a fascial envelope which is continuous from the post-prevertebral fascia to the endothoracic fascia, forming a continuous plane from the neck to the upper thorax. This allows free flow of injected solutions downwards, and infiltration of the upper thoracic sympathetic components. Results are thus obtained which could not possibly follow solitary stellate ganglion injection.

Increasing use of stellate block has brought in its wake reports of complications such as pneumothorax, hæmorrhage, and intraspinal injection. Our observations during cervical procedures, and by fluoroscopy of position changes in the level of cervical planes with head and neck movements, have been of interest in presenting an anatomical basis for some of the above sequelæ. (1) Turning the head from right to left results in a rotation of the cervical vertebræ with the right transverse processes advanced anteriorly about one cm., and vice versa. (2) Throwing the neck forward by placing a pillow behind it advances the lower cervical vertebral bodies and transverse processes about one-half cm.

It appears obvious that these two movements, which are recommended by many authors in describing stellate block, definitely change the plane of the lower sympathetic cervical chain and the inferior cervical ganglion, since they lie directly over the transverse processes. The danger of injection posterior to the ganglion and intraspinal injection is therefore increased. We recommend strongly that the block be performed with the head and neck in the normal recumbent position with the chin centred. The needle is inserted two cm. directly above the sternoclavicular joint. While steadying the needle by pinching the sterno-mastoid between the thumb and forefinger, the needle is passed directly posteriorly until the impact of the sixth transverse process is felt. The needle is then retracted for one-quarter of an inch, inclined downward at an angle of thirty degrees with the horizontal, and pushed downward at that angle for a quarter of an inch. The needle is then aspirated for blood or spinal fluid. If this is found, the needle is immediately withdrawn and reinserted. If clear, five c.c. of 1% procaine is slowly injected.

SUMMARY

This article reviews: (1) Anatomical advances in the component parts of the sympathetic nervous system, and their surgical application. (2) Suggested boundaries for surgical interference with the sympathetic nervous system, pending further investigation. (3) A new nomenclature for the component parts of the sympathetic system. (4) Stellate ganglion anatomy and methods of block.

The author expresses his sincere thanks to Prof. G. A. G. Mitchell. Victoria University, Manchester, England for permission to use text and photographs, to Dr. Harry Powers, F.A.C.A., Dr. D. R. Webster and Dr. P. B. Samuels for valuable comments and assistance in preparation of this article.

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FURUNCULAR MYIASIS DUE TO WOHLFAHRTIA VIGIL (WALKER)*

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THE LARVÆ of the sarcophagid fly Wohlfahrtia vigil (Walker), when deposited by the female on the skin, penetrate it and give rise to a condition known as furuncular myiasis. The disease occurs in Canada and the northern United States in infants generally less than six months old. Most cases occur in June although one case was recorded in September (Walker1). Although less than three dozen human cases due to this species have been recorded, there is reason to

believe that cases occur more frequently than the records suggest. After they are deposited on the skin the larvæ may move to various parts of the body, and while doing so they may make unsuccessful attempts to penetrate the skin and so cause a macular rash. When a larva enters the skin it gives rise to a raised indurated erythematous lesion that may be painful and that resembles and is probably often mistaken for a furuncle. The lesion has a small central sinus, in which the posterior spiracles of the larva may be seen. If the sinus is covered with a drop of oil, or a little vaseline, the larva will protrude the rear portion of its body in an attempt to get oxygen.

The condition which has also been mistaken for impetigo on at least one occasion, was first described by Walker,2 and also occurs in the rabbit (Johannsen³), the silver fox pup (Kingscote4), the mink, the dog, the cat, and the ferret

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(Kingscote⁵). In nearly all cases only young animals are affected, for the larval mouth hooks are not strong enough to penetrate the adult skin. In a study of 200 recorded cases Kingscote⁵ reported that only 10% occurred in man while 74% occurred in the mink and 10% in the dog.

CASE HISTORY

The present case is believed to be the first recorded from Ottawa. Several specimens of the adult fly in the National Canadian Collection were obtained in Ottawa, the earliest being a specimen collected by J. Fletcher on August 12, 1899.

On June 14, 1953, Dr. C. K. Rowan-Legg was called to see a male infant, one month old, in Ottawa. Pustules had been noticed on the infant two days previously and the mother had removed a maggot from one of the lesions. Dr. Rowan-Legg expressed two more larvæ, one of which was squashed; the other, from a lesion on the right side of the head above and behind the ear, was brought to the Ottawa laboratory for identification. It was a third instar larva (5.6 mm. long) of W. vigil. An attempt to rear it on fresh guinea-pig muscle failed and the larva died three days after removal from the infant. On June 15, I examined the patient and found six lesions present, viz., in the right submandibular region, at the top of the manubrium sterni, behind the left ear, on the cheek at the left angle of the mouth, on the palm of the left hand, and behind the right ear. One or two of the lesions probably never contained larvæ and were due to ineffective attempts to penetrate the skin. The lesions in the submandibular area and over the sternum were about 3 cm. in diameter, were raised and indurated, and had definite central sinuses about 3 mm. in diameter. Each contained a little pus but no more larvæ were found. The infant showed little if any systemic disturbance and the lesions healed within a few days.

The distribution of the lesions was typical. Ford⁶ believes that the larvæ are probably deposited on the cheek, whence they move to various parts of the body, usually entering the skin at skin folds. The number of lesions found was rather small, for in most cases 12 to 14 occur (Walker¹). Although most lesions contain single larvæ there are records of several being found in the same lesion. Silverthorne and Brown⁷ removed 30 to 40 larvæ from about a dozen lesions, Walker¹ recorded five larvæ in a single lesion, and Kingscote⁵ mentioned as many as seven occurring together, but the last presumably referred to a non-human case. No macular rash was observed.

Biology of W. vigil.—The genus Wohlfahrtia includes those medium-sized (10 to 15 mm. long) flies of the family Sarcophagidæ in which there are three longitudinal rows of black spots on the dorsum of the abdomen and in which the arista superficially appears bare but has a fine pubescence (James⁸). The flies are about twice as large as the house fly and the thorax has three longitudinal dark stripes. The eyes are well

separated and in life have a characteristic brick-red colour that is not apparent in museum specimens. The oval black spots are confluent so that the abdomen appears black with grey pollinose spots. Of the 17 species of *Wohlfahrtia* known three are of medical importance: *W. magnifica* (Schiner) causes myiasis in man in Eurasia and North Africa and its larvæ occur in wounds, in the body openings and may cause death; *W. vigil* and *W. opaca* (Coquillett) cause furuncular myiasis in infants in North America.

Ford^{6, 9} has made detailed observations on the life-cycle and habits of W. vigil. The adult female may deposit eggs or larvæ, generally the latter. About 10 to 16 larvæ are produced at a time. Larviposition occurs from 11 to 17 days after the fly emerges from the puparium and about 10 days after mating. At July temperatures the larval period lasts from seven to nine days, during which the larva grows from its original length of one or two millimetres to about 20 mm. There are three larval instars, the first two occurring within two or three days. Walker10 has described and figured the larval stages. When development is complete the larva leaves the skin and pupates in the soil. During the summer the pupal stage lasts from 11 to 18 days; larvæ pupating in the fall overwinter in the puparium. The adult flies mate three or four days after emerging from the puparia and continue to mate throughout their lifetime. Females, which are generally 10 to 11 mm. long, usually survive five to six weeks although one specimen lived as long as 53 days. Males, which are about 12 mm. long, do not often survive longer than three weeks. The life-cycle may be completed in as short a period as 31 days or may extend, over winter, to 246 days (Kingscote⁵).

Cleanliness does not protect against infestation, for the female fly is not attracted by foul odours nor does it normally breed in decaying matter as Patton and Evans¹¹ suggested. This species is a specific producer of myiasis. As it does not normally enter houses, most infections are acquired in the open, although Walker² and Lewis¹² each recorded a case in which the infant was infected while indoors.

Distribution of W. vigil and of human myiasis caused by it.—W. vigil occurs in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Alberta, and British Columbia, and has been recorded from all the border states of the United States east of North Dakota (except Vermont) and

from South Dakota, Idaho, Iowa, and Pennsylvania (James⁸); it is also found in Alaska. Cases of infection have been recorded from Colorado (Knowles¹³) and Saskatchewan (Lewis¹²) although the adult fly has not been found in these areas. In Ontario the fly has been taken as far north as Low Bush on the northern shore of Lake Abitibi, about 49° N. latitude. Mackenzie¹⁴ recorded an unusual case from Iroquois Falls, Ontario, which is not far from Lake Abitibi. The patient, a boy four and a half years old, was suffering from phimosis and a larva identified as of W. vigil was found under the foreskin. Other cases from Ontario have been reported by Walker,2,15 Brady16 (this case is also recorded by Walker¹⁵), Ford,⁶ and Silverthorne and Brown.⁷ Chown¹⁷ and Israels and Shuman¹⁸ reported cases from Manitoba, Lewis¹² one from Saskatchewan, and Seamans¹⁹ one from Alberta. Strickland²⁰ noted that "nearly every year our attention is drawn to one or more cases of human myiasis in various places in Alberta." In all the cases from which larvæ have been removed they have been of the genus Wohlfahrtia. Dr. Walker has seen a number of these larvæ and suggested that they might be of W. meigenii (Schiner). James⁸ has pointed out that W. meigenii of American authors, although morphologically indistinguishable from the European species, shows striking biological differences and should properly be referred to as W. opaca (Coquillett). The European species W. meigenii is, like most of the genus, strictly saprophytic, whereas W. opaca produces furuncular myiasis like W. vigil. The larva has only recently been adequately described (James and Gassner²¹), so that in the past differentiation from vigil was not possible without rearing the adults.

In the United States infestation of man by W. vigil has been reported from North Dakota (Gertson et al.²²), Colorado (Knowles¹³), New Hampshire (Sanders²³), and Minnesota (Washburn,²⁴ and Vanderluis and Whittemore²⁵).

The case recorded by Felt²⁶ in New York has been shown by James²⁷ to be erroneously ascribed to W. vigil. Two cases reported by Young²⁸ in the southeastern United States (the exact locality is not stated) occurred in adults, the first in the soles of the feet of a girl 19 years old, the second in the legs, arms, and face of a 24 year old man. As lesions in adults have not been otherwise reported and the larvæ removed from these cases were not identified, it seems that the

cases are doubtful, especially as the author refers to both under the heading *larva migrans*, a term which cannot properly be applied to infestation with W. vigil.

Furuncular myiasis caused by other species: Callitroga hominivorax (Coquerel) [= C.americana (Cushing and Patten)], a primary myiasis producer, attacks clean fresh wounds in livestock and man; it is a serious pest in the southern United States and the neotropical region and has been found as far north as Illinois and the mid-western states (James⁸). Occasionally it may enter very minute wounds and cause furuncular myiasis as in the case described by Mazza et al. (quoted by James⁸). Two species of Hypoderma occur in Canada, viz., H. bovis (L.) and H. lineatum (De Vill). Both these species of warble fly, normally attacking cattle, have been found parasitizing man and forming furuncular lesions, usually on the upper chest or back, or on the head or neck. Salt29 recorded the removal of a H. lineatum larva from such a lesion on the scalp of a 10 year old girl at Vegreville, Alberta, on March 10, 1942. Miller and Lockhart³⁰ reported a case due to H. bovis in a five year old boy from New Brunswick. These authors also discussed previous Canadian records of myiasis due to Hypoderma spp. and noted that, including their case, there have been six. Four cases were due to H. lineatum, two in Saskatchewan and two in Alberta, and two were due to H. bovis, one in Prince Edward Island and the other, as noted above, in New Brunswick.

Dermatobia hominis (L., Jr.) has a wide distribution in the neotropical region and causes a severe furuncular myiasis in man and animals. The female fly has the curious habit of laying her eggs on mosquitoes (especially Janthinosoma spp. and other mosquitoes active by day) and on other blood-sucking arthropods. The larvæ are ready to hatch after about a week but they do so only when the carrier arthopod visits a mammalian host to feed. Williams³¹ has seen several cases in Winnipeg in a Canadian family that had returned from Brazil. In Africa Cordylobia anthropophaga Grünberg and occasionally Stasisia rodhaini (Gedoelst) cause furuncular myiasis in man, Downes³² reported two cases due to the former insect on board ship ten days out of Freetown, Sierra Leone, so that there is a remote possibility that an occasional case may be seen in North America.

SUMMARY

A case of furuncular myiasis due to Wohlfahrtia vigil (Walker) in a month old infant is reported from Ottawa. The life history and distribution of W. vigil and previous records of myiasis caused by the species are reviewed. Other types of furuncular myiasis are briefly noted.

I am grateful to Dr. C. K. Rowan-Legg, Ottawa, for drawing attention to the casé.

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EARLY DIAGNOSIS OF PROSTATIC CARCINOMA*

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SINCE CARCINOMA of the prostate is asymptomatic in its early curable stage, the only way to diagnose it is by routine periodic examination of the prostate in all men past 45 years of age. Any gland which is firmer than normal or presents a hard nodule should be considered carcinomatous until proven otherwise.

Detection with the examining finger is accurate in the well advanced carcinomas but far from it in the early questionable lesions. Mc-Heffey found experienced urologists to be 88% accurate in making a clinical diagnosis in patients needing surgical treatment for prostatic obstruction. Colby, on the other hand, reports eight erroneous diagnoses out of 34 in patients with early lesions who underwent radical perineal surgery, an error of almost 25%.

There are four pitfalls in digital diagnosis; (1) It presupposes that carcinoma of the prostate arises in the posterior region, yet Kahler noted more instances of carcinoma arising in the lateral and anterior lobes than in the posterior. (2) Nodular hyperplasia and chronic prostatitis will often mask an early carcinoma. (3) It is almost impossible to differentiate an encephaloid carcinoma from benign hyperplasia. (4) It is a subjective method of diagnosis and therefore open to mistakes of individual interpretation.

Aspiration and punch biopsy of suspicious nodules presupposes digital localization of the carcinoma with the inherent sources of error already outlined, in addition to which it is difficult to be sure of the position of the needle or punch. Transurethral prostatic resection and open perineal biopsy are operations, rather than diagnostic procedures. In early cases they may fail; in the case of the former, if the urethral portion of the prostate is not involved by tumour, and in the latter, if the biopsy is not taken from the right place.

The only biochemical test diagnostic of carcinoma of the prostate is the determination of serum acid phosphatase levels. However, in cancer localized to the prostate the acid phosphatase levels are normal. Its only value in dealing with early lesions is that should it be elevated we know that we are dealing with disseminated carcinoma no longer amenable to radical surgery.

A glance at Table I shows the importance of early diagnosis, even if radical surgery is not contemplated.

The criteria for operability are a nodule localized to the prostate, with no extension up into the seminal vesicles, down to the membranous urethra or laterally, no fixation, no demonstrable metastases and a normal serum acid phosphatase.

Unfortunately only about 5 to 10% of carcinomas seen in a urologic practice meet these criteria when first seen. Our aim is to increase the number of operable carcinomas so that they might be given the benefit of radical surgery as in other sites. Before this can be done, a simple reliable means of making an early diagnosis is essential.

TABLE I.

SURVIVAL RATES FOR C	CARCINOM	IA OF THE	PROSTATE
Type of treatment	3 years	5 years	10 years
No treatment (Nesbit) Stilbæstrol (Nesbit) Orchiectomy (Nesbit) Stilbæstrol and orchiectomy (Nesbit)	22% 50% 54%	$\left. \begin{array}{c} 10\% \\ 29\% \\ 32\% \\ 44\% \end{array} \right\}$	No figures available but almost 0
Radical surgery (Jewett). (Survival rates extracted)	72%	55%	28% ire).

Cytological procedures in early diagnosis of carcinoma of the cervix have become established in many clinics. At the Well Women's Clinic, the Gynæcology Clinics, and the wards of the Royal Victoria Montreal Maternity Hospital, this has become a routine diagnostic procedure. Why not apply this to early prostatic carcinoma? The idea is not new. As early as 1931, Mulholland from the Mayo Clinic noticed abnormal cells in the prostatic secretion from patients with carcinoma of the prostate, but he neither called them carcinoma cells nor followed up this lead. The next man to focus his attention on this problem was Papanicolaou, who in 1945 studied carcinoma cells in the urine sediment of patients with urinary tract carcinomas. In 1947 Herbut and Lubin did Papanicolaou smears on prostatic secretions, followed in 1949 by Albers, who studied prostatic smears stained with hæmatoxylin and eosin. Since then, other reports have appeared by H. Peters, G. Johnson, Hock and Boyer. These were all small series and one is at once struck by the variations in diagnostic criteria, sensitivity and specificity of the procedure.

The present study was undertaken to: (a) try to establish the diagnostic criteria; (b) find out the accuracy of the test; and (c) determine if it is feasible and worthwhile to use this as a screening test, much in the same way as cervical smears are now used.

Collection of smears. — Prostatic massage is carried out in the conventional manner, except that any suspicious areas receive special attention. A few drops of prostatic fluid are placed on

the slide and allowed to spread over at least half of the slide. Two or more slides are made and immediately placed in the fixative solution of equal parts of 95% alcohol and ether. They must not be allowed to dry up. They are left in solution until they are ready to be stained. If necessary, as when they are to be mailed, they may be removed after fixation for half an hour, but they must be covered with glycerine, because if allowed to dry, the cells will shrink.

Staining.—The staining used is a modification of Papanicolaou's method as used in the Cytology Laboratory of the Royal Victoria Montreal Maternity Hospital.

Examination of slides.—The slides are first scanned under low power to get a general picture of the smear. Any suspicious clusters of cells are then carefully studied under high power and if definitely malignant are marked with an ink spot for quick reference later.

Secretions studied.—Both prostatic smears and tissue smears from known cases of carcinoma and benign hyperplasia were first studied to get acquainted with the cell population. The remainder of the study was divided into two groups. The first of these consisted of patients admitted to the Department of Urology with urinary symptoms, and the second group consisted of patients over 45 years of age admitted to other services with no urologic complaints.

After much thought, it was decided that the classification used to report cervical smears was not applicable to prostatic smears as we were dealing with glandular, rather than squamous epithelium. The classification we settled on was:

- 1. No evidence of malignancy.
- 2. Inflammatory changes.
- Malignancy.
 Suspicion of malignancy.

CYTOLOGY

1. No evidence of malignancy.—Secretion from normal glands shows very few cells. Scattered throughout a network of green-staining precipitated protein can be seen a few prostatic epithelial cells. They are usually single but may be found in groups of two or three. They are polygonal or cuboidal, sharply defined, with a moderate amount of light green-staining cytoplasm and a round or oval central nucleus which occupies from half to two-thirds of the cell. They are about two to three times the size of a white blood cell. Also seen are light green polyhedral

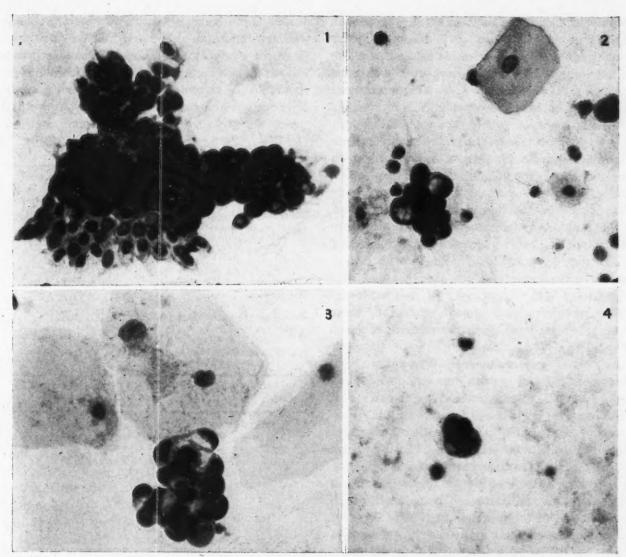


Fig. 1.—From a case of benign prostatic hyperplasia: This is an unusually large sheet of cells. The cells in the lower half of the sheet are typical prostatic epithelium. Those in the upper half stain more darkly and their cytoplasm has a reddish hue due to inflammatory changes. Note the clear cellular outline and normal nuclear cytoplasmic ratio. Fig. 2.—Inflammatory change: There are numerous polymorphs and two pavement cells whose cytoplasm stained a rose colour. The cells show vacuolation and polychromatophilia of cytoplasm with hyperchromicity of nuclei. The cellular outline and size and shape of nuclei, however, are normal. Compare with Fig. 3. Fig. 3.—Malignant: Here is a cluster of malignant cells. The cell outline is lost, giving the appearance of confluent cytoplasm. There is also basophilia and vacuolation of cytoplasm. Most important, however, are the nuclear changes which show crowding, overlapping, pyknosis and variations in size, shape and staining. Four pavement cells are seen showing various degrees of cornification due to associated inflammatory change. Fig. 4.—Malignant: A cluster of four malignant cells of lower grade of malignancy than those in Fig. 3. The nuclei show variations in size and shape and are very hyperchromatic.

pavement cells with small central nuclei which no doubt arise from the urethra. Spermatozoa and red and white blood cells are also found. In cases of hyperplasia the amount of prostatic epithelium is increased. They may be arranged in rows, clusters, and sheets, but the cells are regular, sharp and distinct, with light green cytoplasm, and maintain the normal nuclear:cytoplasmic ratio. (Fig. 1).

2. Inflammatory changes.—There is a marked increase in fibrin and polymorphs as well as in pavement cells and prostatic epithelial cells. The pavement cells show various degrees of cornifi-

cation with the result that they stain all colours of the rainbow, mostly a rose colour. The prostatic epithelium appears in various stages of degeneration. Vacuolation of cytoplasm is common, as is some hyperchromicity of nuclei, and polychromatophilia of cytoplasm (Fig. 2).

3. Malignancy.—Since malignancy is associated with hyperplasia or prostatitis, the cell population will vary accordingly. In addition to these cells, however, cancer cells can be seen. These are seen singly and in clusters. The nuclei are crowded, overlapping, and usually larger than normal. The size, shape, as well as the staining

quality of the nuclei, may vary considerably in the cell group. The cytoplasm is diminished, with frayed edges which may result in the cytoplasm of adjoining cells having the appearance of being confluent. It may have vacuoles and stains reddish or bluish violet in colour. The diagnosis of malignancy is mostly a nuclear diagnosis, as cytoplasmic changes may be purely inflammatory. The nuclear changes are enlargement, anisonucleosis, fragmentation, hyperchromatosis and prominence of nucleoli. Changes affecting the cytoplasm are basophilia and vacuolation. Giant forms and bizarre cells are rare in contradistinction to cases of squamous cell carcinoma, where they are common. The diagnosis of malignancy is not rendered in the absence of clusters of cancer cells, except that in the more undifferentiated cancers groups of two to three cancer cells are accepted as sufficient evidence (Figs. 3 and 4).

4. Suspicion of malignancy.—From a study of the smear one can get the impression of dealing with malignancy, but unless several carcinoma cells, preferably in clusters, are seen, the diagnosis of malignancy is not made. Very thick smears result in overlapping of cells, which makes it difficult to be certain that one is dealing with cancer cells. Too thin a smear may result in only a rare malignant cell being seen, which is not sufficient to class it as malignant. Marked inflammatory changes may mask the diagnosis. These are all labelled suspicious of malignancy, and a repeat smear obtained, at which time they can usually be classed under one of the other groups.

RESULTS

The results are summarized in Tables II and III, and are, for the most part, self-explanatory.

Of the 14 proven cases of cancer on which smears were done, 10 showed positive cytology and one suspicious cytology. Of the three with negative cytology, one was a case of highly differentiated adenocarcinoma and the other two cases were far advanced, stony hard, grade iv in size carcinomas with almost no secretion, in whose smears there was such a paucity of cells that a diagnosis could not be made. Repeat smears were attempted but no secretion could be obtained. The suspicious smear which clinically appears to be benign is from a man of 58 years with marked prostatitis. The cells showed changes which were felt to be more than those

which could be ascribed to inflammatory change but no unquestionable carcinoma cells could be seen. It is intended to follow this case. No cases in which cytology was positive were felt to be benign. One of these was in a man whose prostate rectally felt benign. He had a transurethral resection, at which time 20 gm. were removed.

TABLE II.

Negative smears (including those showing	,
inflammatory changes only)	(
Clinically benign	
Clinically malignant 3	
Positive smears	1
Confirmed clinically 7	
Confirmed pathologically 3	
Suspicious smears	
Clinically benign	
Clinically beingin	
Clinically malignant 1	
Cancer cases	1
Positive cytology	
Suspicious cytology 1	
Negative cytology 3	

TABLE III.

A	SUMMARY					STUDIED
		Non-u	rologic	cases-3	35	

inflammatory																		329
Positive smears												 						
Confirmed clinical	ly											 				3		
Suspicious smears												 						5
Clinically benign.																1		
Clinically suspicion	us											 				1		
Clinically maligna	nt															1		
Cancer cases picked up) .			Ĵ	0		ĵ.	Ĵ										
Positive cytology.												-				3		
Suspicious cytolog	v	•		•	•	•	•	•	•	•		•	•	•		1		
Negative cytology	J.			•	•	•	•	•	•					•		1		

This tissue was all sectioned and studied pathologically, with no evidence of malignancy. A study of acid phosphatase levels, however, was subsequently done. These were markedly elevated and fell to normal levels on Estinyl, thus confirming the diagnosis.

Of more interest to me are the results of the routine smears done on the outside services in patients with no urologic complaints. These were done on unselected admissions of men over 45 to Medicine and Surgery. Of the three positive smears obtained, two were clinically carcinoma, and the other was in a patient whose prostate on rectal examination felt benign. After obtaining the positive smear, serum acid phosphatase levels were obtained and found to be equivocal. The patient was placed on Estinyl and after two weeks the acid phosphatase level dropped mark-

edly, thus confirming the diagnosis. Of the three suspicious smears, one was clinically carcinoma, one was suspicious and the other appeared to be benign. The eventual outcome of these last two we cannot predict. The important thing here is that by the routine examination of these 335 cases, five carcinomas were picked up.

COMMENT

Cancer cells, the presence of which justifies a diagnosis of cancer, can be found in prostatic secretions. Several cancer cells, preferably in clusters, should be seen as the basis for the diagnosis; diagnosis based on the presence of single cells would be hazardous. Contrary to Herbut's conclusions, the presence of multicoloured pavement cells is no indication of malignancy. They are commonly found in patients with prostatitis and are due to differences in cornification, no doubt as a result of inflammatory change.

There are cases of cancer in which prostatic secretions were not obtained, and it is worth while to point out that in these cases the lesion was unquestionably cancer on rectal examination. Since the usefulness of the test is directed at cases of early lesions, this does not detract from the test. There was no difficulty in obtaining secretions in cases in which cancer was merely questioned or not suspected.

Of 12 cases of cancer in which adequate secretions were obtained for cytologic study, 10 showed definite cancer cells, and one showed suspicious cells. In other words, it was possible to make a definite diagnosis cytologically in 83% of cases, and an additional 8% were suspicious of malignancy. In no case where the cytologic diagnosis of cancer was made was it not possible subsequently to prove the existence of a cancer; that is, there were no false positives. One of the cases with positive cytology which was proven to be carcinoma felt benign on rectal examination and 20 gm. of tissue removed transurethrally showed no evidence of malignancy. This shows that a diagnosis can be made cytologically at times when clinical and even adequate biopsy findings fail. We are often faced with a prostate which, on rectal examination, is equivocal. It might be carcinoma and again it might be the result of inflammation. In such cases cytologic study of prostatic secretions may settle the question. Its greatest virtue is that it permits recognition of malignancy at a relatively

early stage and in instances in which other diagnostic methods may fail.

Hock has gone so far as to say that the presence of cancer cells in at least two smears of prostatic secretions warrants radical prostatectomy in the absence of other evidence. Radical prostatectomy was done in four such cases and three were shown to have carcinoma. Since, depending on the pathologist, carcinoma or carcinoma-like lesions are found in 14 to 50% of prostates in men over 50 years of age, and less than 1% of men in this age group die from carcinoma of the prostate, one wonders if this is justifiable at this time.

The question of whether to operate or not in these cases is beyond the scope of this paper, but regardless of one's attitude towards radical surgery, the fact remains that by cytologic study of prostatic secretions it is possible to make an early diagnosis of carcinoma. Of the 335 routine smears done on non-urologic admissions, five carcinomas were picked up and the suspicious smears may go on to frank malignancy. This percentage is about the same as in routine cervical smears done at the Well Women's Clinic. If it is considered worth while to do 50 to 100 cervical smears to pick up one case of carcinoma of the cervix, then it is equally worth while to do prostatic smears for cancers of the prostate. Cytologic study of prostatic secretions is no more prohibitive in cost than a blood Wassermann. However, before it becomes feasible to use this as a screening test, we need more trained cytologists, and before deciding if it is worth while to use this as a screening test, we must do more work on the natural history of the disease and decide whether it is wise to apply radical surgery to carcinoma of the prostate as it is to carcinoma in other sites. Should we decide in favour of radical surgery, we will then have a real need for an early diagnostic test which is easy to do, reliable and economical. Cytologic study of prostatic smears is all three.

SUMMARY

- 1. Carcinoma cells can be found in prostatic secretion and finding them justifies the diagnosis of cancer of the prostate.
- 2. The presence of cancer cells, and in the case of the more differentiated cancers, the presence of clusters of cancer cells, is essential for the diagnosis of prostatic cancer.

3. Cancer cells were detected in cases in which the diagnosis could not be made on the basis of rectal examination. Smears, therefore, are of value as a screening test.

4. Its greatest virtue is that it permits recognition of malignancy at a relatively early stage, and in instances in which other diagnostic methods may fail.

5. It is feasible to use this as an adjunct to diagnosis and as a screening test for carcinoma of the prostate.

I would like to thank Dr. L. Turnbull, clinical cytologist at the Royal Victoria Montreal Maternity Hospital, for her invaluable help.

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TUBERCULOUS PERICARDITIS*

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THE OCCURRENCE of six cases of tuberculous pericarditis at Shaughnessy Hospital between 1943 and 1950 has prompted us to review these cases, as well as the literature, particularly with regard to the course, prognosis and management of this condition. Before proceeding to a discussion of these features, a summary of our cases will be given to illustrate how the clinical picture and course may vary.

CASE 1

Male; age 30 years. This patient was admitted to hospital on November 11, 1943, with complaints of sore throat and general malaise of one day's duration. Examination showed an acute pharyngitis, with a temperature of 103° F. In spite of sulfonamide therapy he continued to run a high temperature, and on November 19 a peri-cardial friction rub was heard. Over the next two weeks the patient developed dyspnœa coincidental with rapid enlargement developed dysphæa coincidental with rapid enlargement of the cardiac contour, and electrocardio-graphic changes compatible with pericarditis. Following this there was a gradual improvement in his condition during December, so that on January 18, 1944, there was no clinical or x-ray evidence of pericarditis. During the ensuing three years, this patient developed in suc-cession a tuberculous arthritis of the left knee and left cession a tuberculous arthritis of the left knee and left hip, a cold abscess of the left upper forearm, and a tuberculous epididymitis. These lesions were treated by appropriate measures, so that at the present time there is no evidence of active tuberculosis at any of these sites, and there has been no recurrence of the pericarditis.

CASE 2

Chinese male, age 27 years. In January, 1945, this patient was admitted to hospital with complaints of general malaise and feverishness associated with dyspnœa on exertion of one week's duration. A low-grade fever was present, with some cardiac enlargement. He continued to run a fever, and on March 6 a chest radiotinued to run a fever, and on March 6 a chest radio-graph showed what was reported as consolidation of the right middle lobe and bilateral pleural thickening, in addition to cardiac enlargement. The electrocardiogram was compatible with a diagnosis of pericarditis. Thora-centesis and pericardial aspiration were attempted un-successfully. Towards the end of March the patient was allowed up, but on May 1 he developed cedema of the ankles which disappeared after several weeks' rest in bed. Other positive findings during this period were a persistent tachycardia of 100-120; blood pressure of 114/90; and inversion of all T waves in the ECG. He was then comparatively well until November 1945, when he developed a left pleural effusion which persisted over the next 14 months and required occasional thoracentesis. In June 1946, a diagnosis of tuberculosis of the lumbar spine was made. By October 1947, it was felt that the pericardial infection was inactive and that there was no evidence of constrictive pericarditis. In September 1948, a Hibbs fusion of the lumbar spine was performed without incident. He developed a tuberculous empyema in August 1949, which is still present, and in February 1952, there was reactivation of his spinal disease below the level of fusion. Through all this, there has been no evidence of reactivation of the pericardial infection or signs of constrictive pericarditis.

CASE 3

Male, age 25 years. This patient developed a dry cough in December 1943. In February 1944, he had transient pain in the left chest, which recurred in March 1944, at which time examination revealed the presence of a left which time examination revealed the presence of a left pleural effusion. Following thoracentesis this partially subsided, only to recur in June. In early August radio-graphy suggested encysted fluid at the left axillary line, and it was noted that the heart shadow was considerably enlarged. On August 21, there was recurrence of the fever which had previously marked each exacerbation of pleurisy but on this occasion a pericardial friction rub was heard. In early September there was evidence of cardiac tamponade which was relieved by aspiration of cardiac tamponade, which was relieved by aspiration of 1,200 c.c. of straw-coloured fluid from which acid-fast

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bacilli were cultured. A further aspiration of 1,300 c.c. was carried out later in the month.

Following this there was a gradual decrease in the signs and symptoms of tamponade so that he was able to leave hospital in December 1944. However the size of to leave hospital in December 1944. However the size of the heart shadow at this time still indicated a large peri-cardial effusion. On March 13, 1945 there was an exacerbation of the pericarditis, with the presence of a pericardial friction rub. Pericardial aspiration yielded 250 c.c. of fluid. At this time a right pleural effusion also developed. During the ensuing eight months there was a gradual improvement in his condition, treatment consisting of bed rest until signs of activity had diminished, pericardial aspiration as required, salt-free diet, and digitalis. There was considerable clearing of the pleural densities bilaterally, with a slight decrease in the size of the cardiac shadow.

However there was a recurrence of the pericardial friction rub in March 1946, and in June he again developed evidence of cardiac tamponade. By the end of July this had subsided spontaneously. Except for a mild recrudescence of pericarditis in November 1946, his condition improved so much that he was able to return to school in May 1948. But in April 1949, he developed œdema of his ankles and dyspnæa on slight exertion, so that he was again admitted to hospital in May 1949. Examination at that time showed a pale white male, cedematous up to the level of the nipple line. The heart was markedly enlarged, and the apical impulse not palpable, but the heart sounds were fairly well heard. The pulse rate was 90; the blood pressure 110/80. The liver was enlarged two fingerbreadths below the costal margin. The ECG showed flat T wayes in all leads. The venous pressure was 30 cm. H₂O, and the circulation time ("Decholin") 23 seconds. The total serum protein value was 5.0 gm. with albumin 2.9, and globulin 2.1. The prothrombin time was 50% of normal with no response to intramuscular injection of vitamin K. Results of other liver function tests were normal. On a salt-free diet and mercurial diuretics, there was a marked decrease in the cedema.

On August 3, 1949, pericardectomy was performed. A loculated empyema cavity in the left lower chest in the anterior axillary line containing 300 c.c. of greyish pus was evacuated and excised. The parietal pericardium was found to be 4 mm. thick and separated from the epicardium by a layer of greyish-green, thick purulent material. The left ventricle was freed laterally, anteriorly, and posteriorly, and the right ventricle over the anterior wall and the diaphragmatic surface. The postoperative course was uneventful, with a slow improvement in the circulatory system, so that at the time of discharge from hospital on December 18, 1949 the general condition was excellent; there was no evidence of constrictive pericarditis, and no dyspnœa on moderate exertion. The pa-tient returned to university in the fall of 1950, and has had no recurrence of symptoms since that time.

CASE 4

Male, age 30 years. This patient was well until October 1948, when he developed symptoms of an upper respiratory infection, followed by chills, general malaise and feverishness. On admission to hospital elsewhere on November 3, he was found to have a temperature of 102° F. There were no other pertinent findings. On November 7 a pericardial friction rub was heard, and liver dullness was found to be 2 cm. below the costal margin. During this period the patient had been running a high fever. Then there was some improvement, but on December 14 the pericardial friction rub reappeared, and on December 16 he again became acutely ill. He developed evidence of a right pleural effusion, liver enlargement down to the umbilicus, and progressive cedema. The heart was grossly enlarged. By December 27 dyspncea had become marked. The patient was then Male, age 30 years. This patient was well until October 27 dyspnæa had become marked. The patient was then rapidly digitalized and given mercurial diuretics with good effect. There was return of evidence of cardiac tamponade with extensive effusion present in the right

chest, pulsus paradoxicus, liver enlargement to the pelvic brim, and marked ædema of the legs. In addition to the reinstitution of a strict cardiac regimen, a course of intramuscular injections of streptomycin was given. When these had no effect on his condition an emergency pericardectomy was performed on March 5, a great deal of the left and right ventricles being freed from the greatly adherent and thickened pericardium. It was noted greatly adherent and thickened pericardium. It was noted that the myocardium showed considerable fibrosis and inflammatory reaction, granulation tissue being present in several areas. Histologically the pericardium showed much fibrous thickening and the presence of many tubercles, some of which were conglomerate and caseous. Multinucleated giant cells of the Langhans type were present and acid-fast bacilli were found on culture. Postoperatively, his condition improved. He returned to Shaughnessy Hospital in July 1949, at which time he still had evidence of constrictive pericarditis as well as compression of the right lung by a greatly thickened pleura. He was treated as for tuberculosis and continued to show cyanosis, dyspnœa on exertion, an enlarged liver, raised venous pressure in the arms, and cedema of the feet. By January 1951, it was evident that operation both on the lung and the pericardium would be required. Accordingly, a decortication of the right lung was carried out in May 1951, and a second pericardectomy in October 1951. Again the ventricles were freed by the removal of a large amount of thick, fibrous tissue which now showed no microscopic evidence of tuberculosis.

The result has been gratifying. He quickly lost all signs of constrictive pericarditis, his exercise tolerance has improved greatly and he is now doing sedentary work.

CASE 5

Male, age 24 years. This patient was well until October 1944, when he developed jaundice. From this he made an uneventful recovery, but in December of the same year he developed a cough with low-grade fever and upper abdominal pain. He was found to have a pericarditis with effusion when he was admitted to hospital in January 1945. The finding of acid-fast bacilli on culture of pericardial fluid obtained by aspiration confirmed the diagrams of the period of the second of the firmed the diagnosis of tuberculous pericarditis. On February 28, 1945, he developed signs of congestive failure which subsided on digitalis and mersalyl therapy. In June 1945, there was an exacerbation of symptoms. Examination showed that he was running a low-grade fever. There was cyanosis and moderate dyspnœa. The pulse rate was 110. There was evidence of right pleural effusion, and the heart was moderately enlarged. The liver was enlarged three finger-breadths below the right costal margin. There was no peripheral cedema. The right pleural effusion subsided after several aspirations, and over the next 14 months his general condition improved, but there was a recurrence of peripheral cedema with ascites. In November 1946, pericardial aspiration was carried out, 1,000 c.c. of thick, greenish pus being obtained on two aspirations. At the same time 1,000 c.c. of amber fluid was obtained from the right chest. At about this time he was found to have de-structive lesions of the 4th and 5th lumbar vertebræ. He was given a course of streptomycin, 2 gm. daily for 40 days, with no effect on the general condition. Pericardial aspiration was carried out approximately once monthly. Dyspnœa on mild exertion, hepatomegaly and ascites persisted but were controlled by mersalyl.

It was decided in August 1948, that the only chance It was decided in August 1948, that the only chance the patient had was pericardial resection. Operation was performed on August 11. The left chest was found to contain 1,000 c.c. of clear, straw-coloured fluid. The pericardial sac was greatly enlarged and thickened, and when opened exuded 500 c.c. of clear fluid. The inner surface was covered with thick, greyish, caseous, shaggy exudate. The greater part of the visceral pericardium over the left and right ventricles was removed. Most of the thickened parietal pericardium was also excised. The the thickened parietal pericardium was also excised. The patient died eight hours postoperatively.

CASE 6

Male, age 35 years. In February 1947, this patient developed an effusion of the left knee which subsided after two months. In April 1947, he developed dull substernal pain followed by increasing dyspnœa until he was bedridden on May 1. At this time he began to feel feverish. When he was admitted to hospital on May 12, he was found to have a greatly enlarged heart with evidence of fluid at the right lung base. By pericardial aspiration 100 c.c. of amber-coloured fluid was obtained. He subsequently developed signs of cardiac tamponade which were relieved by frequent pericardial aspirations, salt-free diet, mercurial diuretics, and oxygen. Both smear and culture of the pericardial fluid were positive for acid-fast bacilli. Because his condition began to deteriorate again at the beginning of June, he was given a course of streptomycin intramuscularly, intrapleurally and intrapericardially. For a while his condition appeared to improve on this therapy, but in mid-July he developed thrombophlebitis of all four limbs which resulted, in spite of anticoagulant therapy, in multiple pulmonary emboli and death on July 25, 1947.

Post mortem examination showed the pericardial sac to be greatly thickened, measuring up to 1 cm., tough and leathery, with an inner surface that was shaggy and greyish-yellow in colour. The corresponding epicardium was also a thick, shaggy pyogenic membrane, and the cavity contained 100 c.c. of cloudy yellow fluid. The heart itself was normal. In addition to the presence of multiple pulmonary emboli with infarction, there was

mediastinal tuberculous lymphadenitis.

Discussion

The first mention of tuberculosis of the pericardium was by Rokitansky in 1852 and the first case was reported in 1872. It was considered to be quite rare in the early reports. In 1892, when Osler presented 17 cases, he could find but 32 references to this form of tuberculosis. Since then, increasing numbers of cases have been reported, and now the average incidence is about 1% of all patients who come to autopsy, and about 4% of those with tuberculosis upon whom autopies are performed.

Tuberculous pericarditis may be an isolated finding, but more commonly it is found in association with tuberculosis of the pleura, lung, adjacent mediastinal lymph nodes or a distant focus such as spinal caries. Peel² believes that the disease develops in the early stage of dissemination of tuberculosis. He states that it is found with the primary Ghon lesion, with an apparently primary tuberculous pleurisy, or in the absence of any pulmonary or pleural lesion. According to Harvey and Whitehill³ infection most commonly takes place by spread from the adjacent lymph nodes.

Andrews, Pickering and Sellars⁴ considered that in their 18 cases of acute tuberculous pericarditis the pericardium became involved during the primary tuberculous infection, and that spread was hæmatogenous. They thought that this mode of transmission would most satisfac-

torily explain the occurrence of polyserositis in 14 of their 18 cases. In our six cases it would appear that the tuberculous pericarditis was part of a primary tuberculous infection. In none was there evidence of previous pulmonary tuberculosis and, except in one case in which there was an isolated pericarditis, the remainder had evidence of disseminated tuberculosis.

The pathological picture in tuberculous pericarditis varies. The surface of the pericardium may be covered with miliary tubercles without any accompanying effusion or the formation of a fibrinous exudate. Usually, however, the surface of the heart is covered with a thick and abundant fibrinous exudate and the pericardial sac is filled with fluid.⁵ After the subsidence of the acute process a chronic pericarditis may develop, frequently with involvement of the mediastinum, resulting in chronic constrictive pericarditis.⁶

At this point, it might be of interest to discuss the role of tuberculous pericarditis in the etiology of constrictive pericarditis. Andrews, Pickering, and Sellars⁴ have recently reviewed this problem. They feel that much confusion has resulted from the use of the terms "mediastinopericarditis" and "adherent pericardium" to describe sometimes one and sometimes the other of the two distinct conditions, accretio and concretio cordis, and suggest that the use of these former terms be abandoned. Accretio cordis is due to rheumatic pericarditis, while they believe that concretio cordis or constrictive pericarditis is always due to tuberculosis. They do not believe that constrictive pericarditis can be due to rheumatic fever, because of (1) the absence of the clinical picture of rheumatic disease, and (2) the fact that Harrison and White have followed up 1,500 cases of rheumatic heart disease and found no case of constrictive pericarditis. Uræmic pericarditis and pericarditis secondary to myocardial infarction can be ruled out, and this leaves only tuberculous, pyogenic and idiopathic forms of acute pericarditis as possible causes. These authors have been unable to find any case report in which a proved septic pericarditis later developed into chronic constrictive pericarditis in the healed phase. They could also find no support from the literature or from their own cases for the view that idiopathic pericarditis may cause constrictive pericarditis. They conclude by saying that in Great Britain most and perhaps all cases of constrictive pericarditis are due to antecedent acute tuberculous

pericarditis, because it is the rule for constrictive pericarditis to develop as tuberculous pericarditis heals; no other form of acute pericarditis has been observed to heal in this way; and in chronic constrictive pericarditis it is the rule to find no past history of acute pericarditis.

Of all the forms of acute pericarditis, that due to tuberculosis is by far the most likely to be overlooked. Norris's findings are in accord with this thesis. He found 82 cases of pericarditis in 1,780 cases of tuberculosis.7 In only 32 were actual tubercles seen, while in the others no tubercles or any other demonstrable etiology could be found. These findings, in addition to the lack of precision in the use of the term "chronic adherent pericarditis", would explain the results of Smith and Willius (1932) who found that tuberculosis played but a small part in the etiology of chronic adherent pericarditis, only 2% of 144 cases being found due to this cause, whereas rheumatic fever was the cause in 21%, pulmonary and pleural disease in 17%, cardiac infarction in 6%, neoplasms in 3%, while in the remainder the cause was not evident.6,7

Clinical features. - Tuberculous pericarditis may occur at any age. The actual age incidence varies in the many cases reported. In Harvey and Whitehill's3 series of 95 patients cases occurred in almost every decade. Ellman⁷ found the range of age in his series to be from 20 to 35 years, while Heimann and Binder's figures closely approximated to these in their 31 cases occurring among the Bantu, the range being from 20 to 40 years. Andrews et al.4 in their series of 18 cases found that the age varied from four to 49 years and averaged 21 years. However, Thompson found in his series of 28 cases that the range was 49 to 84 years, with an average age of 69.5 years, Blalock and Levy and Keefer also found tuberculous pericarditis to be a disease of old men.4

Tuberculous pericarditis appears to be a disease predominantly of males, 85% of Harvey and Whitehill's³ patients being of that sex. In six other series reviewed by Andrews et al.4 the sex incidence was approximately the same. In our small series of six cases, the age range was from 24 to 35 years with an average of 28 years.

These cases illustrate certain clinical features of this disease. The mode of onset may be insidious or fulminating in character. In four of our six cases the onset was marked by general malaise associated with moderately high fever. Two of these patients had acute pharyngitis at the time of onset. In one of the remaining two the onset was more gradual with low-grade fever, while in the other pericarditis developed during the course of a pleurisy with effusion. In all of these patients dyspnœa was an early and prominent symptom. Pain was a noteworthy symptom in only two of our cases; in one it was localized to the substernal region, while in the other it was in the upper abdomen. On the other hand, as in some of the cases reported by Andrews et al.,4 the patient may have little or no effusion with signs of tamponade.

The clinical course may vary considerably. A pericardial effusion may develop and then completely resolve, as in our first two cases. In Case 1 there was high fever for six weeks associated with evidence of pericardial effusion. However, two months after the onset of illness there was no clinical evidence of pericarditis except for electrocardiographic changes. The course in Case 2 was more prolonged, one year elapsing before resolution was complete.

On the other hand, acute inflammation may go on to a chronic process resulting in anything from a thick, shaggy exudate to scar tissue which produces the clinical picture of chronic constrictive pericarditis as in our Cases 3, 4, and 5. Finally, the patient may die during the acute stage as in Case 6.

Diagnosis.—Tuberculous pericarditis must be differentiated from other types of pericarditis rheumatic, pyogenic, uræmic and that due to myocardial infarction. This may depend upon indirect evidence such as the absence of signs of these latter diseases and the presence of other tuberculous lesions. The latter is particularly important. Of our six cases only one had an isolated pericarditis. Of the remaining five, two had an associated pleuritis while the other three had disseminated tuberculous lesions. A definite diagnosis can be made by the isolation of organisms from the pericardial fluid or by histological examination at operation. This was done in four of our cases. However, failure to recover tubercle bacilli from the fluid is of little significance in excluding a diagnosis of tuberculous pericarditis. While it is true that in the three cases of our series in which pericardial aspiration was successful tubercle bacilli were cultured, this does not obtain in other series. Andrews et al. found that fluid from seven pericardial cavities with

proved tuberculosis gave negative results in five and positive results in two on culture, and two negative and one positive on guinea pig inoculation.

Prognosis.—Meredith states that the most common outcome is death, some series showing a mortality rate as high as 85%. Stepman and Owyang⁸ reviewed 37 cases of tuberculous pericarditis and found that 31, or 84%, of the patients died while only six were reported improved. Andrews et al.⁴ report 11 dead out of 16 patients. All except one of these deaths (which occurred after pericardectomy) were due to widespread tuberculosis. Four of the five patients alive are unable to work while the fifth requires institutional care.

Harvey and Whitehill,³ in their series of 95 cases, found that the prognosis was poorer in those patients in whom the tubercle bacillus was isolated. Of the 71 clinically important cases 37 were proven and 34 unproven. The unproven cases resembled in every respect the proven ones: 83% of the patients with proven tuberculosis died whereas only 6% of the others died. These authors stated that in the fatal cases the younger patients died from widespread tuberculosis, while the older patients in general died from myocardial failure without signs of progressive tuberculosis in other organs.

In our series of six cases, a prognosis cannot yet be given. Two patients had only a transient pericarditis and now appear to have an arrested asymptomatic condition. Two have died in the acute phase while two have undergone pericardectomy and are improved, one with no evidence of constrictive pericarditis four years after operation, the other markedly improved 18 months after operation.

TREATMENT

The treatment of tuberculous pericarditis consists of the general measures used in the treatment of any form of tuberculosis including bed rest while there is evidence of active infection.

In addition there are special types of treatment. During the acute exudative phase streptomycin may be given. It is too early to evaluate this therapeutic agent as yet. Meredith¹ reports its successful use in one case: 200 mgm. was given q.3 h. intramuscularly for 33 days. Within two days of institution of therapy the temperature began to decline and within four to five days

it reached normal. Two months later there was no evidence of effusion. Ebert and Falk⁹ reported the results of the use of streptomycin in the treatment of 20 cases of tuberculous pericarditis at the Eighth Streptomycin Conference. Their conclusions were:

1. The use of streptomycin alone in the treatment of tuberculous pericarditis with effusion and circulatory failure may be of value. In 50% of those receiving primary streptomycin therapy the therapeutic response was good, and the remaining half were classified as treatment failures.

2. The effect of streptomycin as an adjunct to pericardectomy in this series would suggest that its value may be similar to that noted in other surgically treated tuberculous conditions—helping to prevent the complications of tuberculous infection.

Our results have not been as good. Streptomycin was used in four of our cases without apparent effect.

Both in the acute exudative phase when there are signs of cardiac tamponade and in the stage of chronic constrictive pericarditis, a cardiac regimen consisting of a salt-free diet and administration of mercurial diuretics with ammonium chloride and digitalis, is of value. Pericardial aspiration is indicated for diagnosis and relief of cardiac tamponade.

In the chronic constrictive phase when there is no evidence of active infection, pericardectomy should be carried out to relieve the constriction. However, there is some room for argument as to the risk of dissemination of infection at the time of operation. Andrews et al.4 believe that this risk has been overrated. The main point in waiting, if possible, for the subsidence of inflammation is to decrease the chance of further formation of scar tissue. More recently, Holman and Willett have advocated pericardectomy in the active stage of the disease. We do not agree with this policy, since in our experience (Cases 4 and 5) pericardectomy in the acute phase has been of no benefit. Paul, Castleman, and White¹¹ report their results in 53 cases of chronic constrictive pericarditis. Surgical exploration with pericardiolysis and partial pericardectomy was undertaken in 42 cases. The results in 25 (61%) have been satisfactory. Six patients died from the operative procedure itself, five died from complicating diseases, and four died from the effects of their underlying disease. The cause of death was unknown in one case. In this series, the etiology of 56% was unknown, and in 17% the cause was proven to be tuberculous.

The results of pericardectomy in proven cases of tuberculous pericarditis are given in the following table.9

SUMMARY AND CONCLUSION

1. The histories of six cases of tuberculous pericarditis have been presented to illustrate the varied clinical features of the disease.

the four of our cases in which streptomycin was used there was no apparent effect.

5. It is felt that pericardectomy should be reserved for the chronic constrictive stage of the disease and should not be carried out during the acute exudative phase.

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	No.	Improved	Unchanged	Worse	Died	% died
P. D. White (1935)	3	0	0	0	3	100%
Churchill (1936)	2	0	0	0	2	100%
Blalock et al. (1941)	14	7	0	0	7	50%
Andrews et al. (1948)	.9	6	0	0	3 Average	33% 70%
V.A. series with streptomycin adjunct	7	C		0	1	1407
therapyOur series	3	2	0	0	1	$\frac{14\%}{33\%}$

- 2. The incidence, pathology, clinical features, diagnosis, prognosis, and treatment of this condition have been discussed.
- 3. The findings in our cases would support the concept that tuberculous pericarditis usually occurs at the time of the primary infection.
- 4. It is too early to evaluate the effect of streptomycin on the course of this condition. In

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Case Reports

TUBERCULOSIS OF THE **APPENDIX**

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TUBERCULOSIS of the gastro-intestinal tract is considered to be a secondary infection, generally of bovine origin.

A case of acute appendicitis, tuberculous in character and from a human tuberculous source, is herein studied as a rare form of gastrointestinal lesion. Several questions of importance require consideration: (1) Is it a primary or a secondary lesion? (2) What are the pathways of infection? (3) What are the origin and the consequences?

1. It is generally accepted that intestinal tuberculosis is secondary in origin and, if it is due to human-type bacilli, it derives from the patient or from the immediate environment. (In infants, for instance, it would be from a tuberculous mother or nurse). The bovine type is rather rare in Canada in view of the general progress of hygiene, as well as the pasteurization of milk and veterinary supervision of cattle. If we consider the possibility of a primary lesion elsewhere, as the present case suggests, the latter must have been in the patient's lymph nodes, only half-dormant, perhaps since childhood. It is possible that an exacerbation of this lymph node infection caused the secondary lesion from an incompletely healed focus.

2. The pathway of infection in intestinal tuberculosis is by direct invasion of the intestinal wall. The intestinal follicles are invaded, then they become enlarged and transformed by grey necrosis, direct caseation and softening with ulcer formation. The last stage is of lymphatic spread through the peritoneum, the mesentery, the lymph nodes. Usually, the gastric and intestinal mucosæ have a relatively good defence mechanism against tuberculous invasion in spite of the continuous swallowing of sputum by the tuberculous patient. In the ileo-cæcal valve as well as in the appendix, the lesion can assume different forms: (a) The massive granular type, of diffuse character. (b) Chronic ulcerative, more circumscribed and localized infections.

The latter form affects the small intestine and mostly the ileo-cæcal valve with occasional intestinal bleeding. This type of lesion may be manifested clinically as one of two types: (1) Hæmorrhagic, with diarrhæa and occasional intestinal bleeding. (2) Coprostatic, with intermittent constipation and dysenteriform incidents.

When the lesion is only in the appendix, these symptoms may or may not be present. The presence of occult blood in stools with rectal tenesmus may give us some clue to the diagnosis. In other cases the typical syndrome of chronic appendicitis may be present: pain in the right lower quadrant, radiating to the transverse colon, cramps, spasms, colics, nausea and occasional vomiting, intermittent constipation and diarrhœa. On examination there is tenderness over Mc-Burney's point as well as in the right upper quadrant.

The symptoms are never of sudden onset, but the process is slow and progressive. The clinical features include a few abdominal cramps, with frequent stools. The patient is rather thin and anæmic, with dry skin, occasionally bronzed due to hyperpigmentation of sympathetic involvement. Night sweats and diarrhœa are occasionally mentioned. Pain is provoked only by examination.

CASE HISTORY

R.M., a married woman of 36, complained of pain in the right lower quadrant, radiating to the umbilical region and more marked after a large meal, some post-prandial distension, occasional nausea, and no vomiting. There was some loss of weight, and occasional borborygmi. Menses were normal.

The father had died of cerebral hæmorrhage(?) and the mother of kidney disease. Two brothers died of tuberculosis and one is under treatment for the same disease.

The abdomen showed marked tenderness over the right lower quadrant; several nodules, possibly fæcaliths, were palpated over the mid lower quadrant. Pelvic examination showed nothing abnormal.

Radiographs of the chest and upper gastro-intestinal tract were negative. The erythrocyte sedimentation rate was 42 mm. in one hour, corrected to 29.5 mm. The white cell count was 11,900.

It was decided to keep the patient under observation. A few day's later an acute flare-up occurred and an operation was performed. The appendix was found thickened and inflamed throughout its length with pus formation at the tip. The entire serosa was covered with small tubercles and an indurated nodule was felt over the base. The diagnosis was made of possible tuberculosis. The same tubercles covered about three feet of small intestine and partially the ileo-cæcal valve. Only

Sections of the appendix showed numerous small tubercles scattered through the submucosa, muscularis and subserosa. These contained numerous multinucleated giant cells. Special staining showed a few scattered acid-fast bacilli, mainly in the giant cells. The diagnosis was therefore tuberculous appendicitis.

Under isolation technique recovery was uneventful. After discharge the patient continued PAS and streptomycin treatment at home. When last seen she was very well and had gained weight.

SUMMARY

A case of tuberculous appendicitis of human origin is presented. Complete recovery was obtained after operation by streptomycin and PAS therapy.

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A CASE OF TRICHINOSIS SIMULATING MENINGITIS*

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BECAUSE THE LARVÆ of Trichinella spiralis may penetrate almost any structure in the human body, the course and symptomatology of trichinosis may imitate a wide variety of familiar diseases. Central nervous system manifestations are comparatively common, occurring in 10 to 17% of cases, usually in the form of diminished tendon reflexes and headache.1 However, only approximately 100 cases have been reported in which affections of the central nervous system were the predominating features. The following case illustrates a clinical picture in which trichinosis resembled meningitis.

^{*}From the Medical Service, Jewish General Hospital.

Mrs. M.W., a healthy 47 year old housewife, was awakened on the morning of July 24, 1953 by a severe constant occipital headache. Her eyelids and cheeks were swollen to the extent that she could barely open her eyes. She had several bouts of chills and fever during the day. The facial swelling subsided in two or three days, but the headache and fever continued without relief for the next 10 days with evening temperatures rising as high as 104° F. She was treated at home with massive doses of penicillin, streptomycin, aureomycin and sulfonamides without success. On July 31, her family began to notice marked personality changes. The patient appeared depressed, apathetic and at times was not aware of her

pressed, apothetic and at times was not aware of her immediate surroundings.

On admission to the Jewish General Hospital on August 2, she was mentally dull, disoriented as to place and time, and unable to co-operate with hospital personnel. Her temperature was 103.8° F. per rectum, pulse 100; respirations 38 and blood pressure 120/60. Positive findings on physical examination were marked neck stiffness, diminished knee jerks and ankle jerks, diffuse muscular and joint pain at rest accentuated by active and passive movement of all limbs, tenderness over

the lumbar spine, and fine moist rales at the right base.

The functional enquiry revealed nothing of significance except for the fact that the patient had suffered from except for the fact that the patient had suffered from migraine attacks for many years. Routine blood and urine studies gave results within normal limits except for a white cell count of 12,900 with an eosinophilia of 24%, and a sedimentation rate of 34 in one hour. Blood culture was negative on several occasions, while Proteus vulgaris sensitive to chloramphenicol was grown from the urine. Lumbar puncture on the day of admission showed a spinal fluid pressure of 50 mm. The fluid was negative for white cells, but there were many red cells; the protein level was 63 mgm. % and the sugar 60 mgm. %. Larvæ of Trichinella spiralis were not searched for in the cerebrospinal fluid at this time as this diagnosis was not suspected. was not suspected.

was not suspected.
The entire picture was confusing during the first days after admission, the following diagnoses being considered:
(1) Pansinusitis with possible cerebral abscess. (2) Meningitis. (3) Primary atypical pneumonia. (4) Perinephritic abscess. Radiographic examination the day after admission showed the chest and paranasal sinuses to be clear. The intensive antibiotic therapy which the patient had received was at first thought to be the most likely cause of the eosinophilia.

During her first few days in hospital, the patient continued to show marked mental disturbance, continuous occipital headache, incontinence of urine and fæces, and fever rising sharply to 104° each night. She was severely fever rising sharply to 104° each night. She was severely depressed, weeping copiously at times, and at the height of her fever, she would become completely irrational and difficult to control. Management consisted principally of maintaining nutrition and hydration with intravenous fluids. Antibiotic therapy, consisting of chloramphenicol and sulfadiazine for the first three days and intravenous Terramycin for the next four days had no apparent effect on the course of her illness. On August 5, (three days after admission) neurological examination revealed a disappearance of the neck stiffness, normal tendon reflexes. after admission) neurological examination revealed a disappearance of the neck stiffness, normal tendon reflexes, and some suggestion of a cerebellar drift or weakness in the right arm. Repeat lumbar puncture on the same day showed the cerebrospinal fluid pressure to be 125 mm.; there were many red cells but no white cells; protein level was 620 mgm. %, chloride 725.4 mgm. %, and sugar 91.0 mgm. %. Rales were now present at both bases. On August 8, the patient appeared much brighter and more alert. Her temperature started to fall, and she began to ask where she was and what had happened to her. On close questioning, she was unable to recall anything that had occurred during the previous five days. She improved rapidly thereafter; and was discharged on August 15, free of symptoms. August 15, free of symptoms.

The diagnosis of trichinosis was first suggested on August 9 at medical rounds by Dr. M. J. Messinger because of the history of swelling of the face and muscular pains combined with an eosinophilia. Trichinella antigen for skin testing was found to be unavailable locally and on August 13 a muscle biopsy was performed. A section of gastrocnemius muscle showed the characteristic larvæ of Trichinella spiralis encysted within partly formed capsules. The date of ingestion of the parasites was estimated to be five weeks previously to the time of biopsy and two weeks before the onset of symptoms. It has always been the patient's habit to purchase pork from various butchers. She states that she prefers to eat pork well cooked, and that no other members of her family have been ill.

COMMENT

The lesson to be learned from this case is that trichinoisis, like syphilis, can mimic almost any known disease, and that unless a high index of suspicion is maintained it is likely to go undiagnosed.

Encephalitis due to infestation with Trichinella spiralis was first reported by Frothingham who described three cases in which he was able to find larvæ in the cerebrospinal fluid.2 In the cases so far recorded, the symptoms are generally classified as those of a non-specific, non-suppurative meningoencephalitis most often characterized by delirium, severe headache, neck stiffness, positive Kernig's sign, stupor, depression, apathy and incontinence.3, 4 There may or may not be a cellular reaction in the meninges, and the larvæ may or may not be found in the cerebrospinal fluid.⁵ Encysted partially developed worms do not occur in the brain tissue unlike most other organs, and it is assumed that the symptoms are produced by the occlusion of small cerebral vessels by the parasites, or are due to toxic effects.6

SUMMARY

A case of trichinosis with symptoms simulating meningitis has been described.

The helpful criticisms of Dr. Harold N. Segall, Chief of the Medical Service, Jewish General Hospital, are gratefully acknowledged.

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HOSPITAL REPORTS

ROYAL VICTORIA HOSPITAL COMBINED STAFF ROUNDS NO. 9

JAUNDICE FOLLOWING TRANSFUSION

I. Causes of Jaundice Following Transfusion

PAUL WEIL, M.D.

- II. Hæmatological Considerations in Post-Transfusion Jaundice LOUIS LOWENSTEIN, M.D.
- III. CLINICAL MANIFESTATIONS OF HOMOLOGOUS SERUM HEPATITIS MARTIN M. HOFFMAN, M.D.
- IV. BACTERIOLOGICAL ASPECTS OF HOMOLOGOUS SERUM HEPATITIS A. M. MASSON, M.D.
- V. PATHOLOGICAL CONSIDERATIONS
 GARDNER C. McMILLAN, M.D.,
 Montreal
- I. Causes of Jaundice Following Transfusion

There are three causes of jaundice following transfusion: (1) hæmolysis of donor cells prior to transfusion; (2) hæmolysis of donor cells after transfusion due to incompatibility, Rh and rare factors; and (3) homologous serum hepatitis.

Pre-transfusion hæmolysis.—The least important in its clinical implications is that due to hæmolysis of the donor cells either before or immediately after transfusion. The hæmolysis is due to the early death of the cells because of improper storage or handling of blood, i.e., their life span has been so shortened that the cells are moribund when they are transfused. Blood is taken out of the blood bank to the wards or operating theatre. It may be left standing at room temperature for several hours and then returned unused. The same blood may again be cross-matched and taken out for another patient. If this sort of thing happens two or three times and the blood has not been properly cared for, the red cells reach senility earlier than the date of obsolescence stamped on the bottle. When such blood is transfused massive hæmolysis and jaundice may occur. There are usually no other manifestations such as precede the appearance of jaundice in the next type to be discussed. The prevention of this complication is the responsibility of everyone who orders a blood transfusion, or handles a bottle of blood.

Hæmolysis after transfusion.—By far the most important of the causes of jaundice following transfusion is known as the hæmolytic or incompatible transfusion reaction. It is due to hæmolysis of donor cells by antibodies (agglutinins) present in the recipient's plasma. In-

compatible transfusions do not normally occur because of laboratory errors. They are the result in almost every case of errors before or after the laboratory has performed its tests. They occur as a result of mis-labelling, as when specimens are taken from two patients in the same ward at the same time under emergency conditions. They occur also when blood intended for one patient is inadvertently given to another. The latter is the usual cause.

Most transfusion reactions of the incompatibility type involve the ABO system, e.g., group A blood given to a group O patient; they may be fatal and they are almost invariably due to carelessness.

The prevention of the later manifestations of an incompatible transfusion-jaundice and acute renal failure requires recognition of the early signs and symptoms, such as chill, pain in the back, feeling of tightness in the chest, or flushing of face, so that the transfusion may be stopped immediately. This in turn demands that transfusion be given only under adequate supervision, at least during the first 15 minutes, as it is usually in this period that an incompatibility shows itself.

Next in importance are incompatibilities due to the Rh factor. As discussed below these rarely occur anywhere except in the obstetric service because it is only during pregnancy and the first few months after delivery that antibodies to the Rh factor are present in the circulation. It is of the utmost importance therefore in transfusing such patients that the Rh type be accurately determined and blood transfused only after crossmatching.

The last group of incompatibilities is that due to a combination of rare factors and multiple transfusion. The recipient, whose cells do not contain one of the factors, is given by chance blood that does have that particular factor; he develops antibodies to it and during a subsequent transfusion of blood containing the same factor he has a hæmolytic reaction.

This may also happen to an Rh negative patient who receives multiple transfusions of Rh positive blood. However, when supplies of Rh negative blood are limited it may be justifiable to transfuse male patients with Rh positive blood if transfusion is imperative. With female patients however, the risks of such a procedure must be weighed more carefully. (As already mentioned Rh positive blood cannot be given under any circumstances to a patient who has antibodies to the Rh factor.) Rh positive blood given to an Rh negative female may sensitize her, so that even years later in her first pregnancy the infant, if Rh positive, may have hæmolytic disease. It may also be dangerous to transfuse the Rh negative woman with Rh positive blood in large amounts, for if she has ever been sensitized during pregnancy she may respond to the transfusion with the production of antibodies sufficient to hæmolyse the transfused cells and cause jaundice.

To prevent this type of jaundice it is necessary that the laboratory be informed if the patient is a recipient of multiple transfusions, because incompatibilities due to such factors can often be detected only by special grouping and crossmatching procedures.

Homologous serum jaundice. - Finally, the third cause of jaundice is not a hæmolytic process but hepatitis which is caused by a virus transmitted in the blood or plasma of the donor. Homologous serum jaundice may be differentiated from the preceding types by its late appearance at an average of 60 days following transfusion, and by the various tests used to distinguish between hæmolytic and non-hæmolytic jaundice.

II. HÆMATOLOGICAL CONSIDERATIONS IN POST-TRANSFUSION JAUNDICE

Mortality and morbidity.—In the United States today six to seven million pints of donor blood are obtained annually. After a blood bank is started in an institution the incidence of transfusion increases two and three fold. Many factors are responsible for this, among which is the giving of unnecessary transfusions. The reported death rate from transfusions in the United States varies from 0.1 to 0.3%, or one to three thousand deaths per annum. This is a minimal figure, because some deaths are probably not reported.

Post-transfusion hepatitis is discussed elsewhere in this communication. It is of interest that in the 10-year period from 1937 at Johns Hopkins, transfusions caused one-seventh of all cases of hepatitis. The reported mortality of post-transfusion hepatitis (19 to 35%) is two to four times higher than in infectious hepatitis not due to transfusion. The morbidity is considerably higher. Non-fatal post-transfusion hepatitis and sensitization which may cause future transfusion reactions or which may be responsible for hæmolytic disease of the newborn are complications which may not be immediately apparent.

Indications for transfusion.—Today, many of the former indications for transfusion are invalid. Transfusions are rarely indicated unless there are less than 3.5 million circulating red cells per c.mm. and the hæmoglobin value is less than 10.5 gm. %. Unless the patient is suffering from symptoms of hypoxia, transfusions should be withheld in chronic anæmia amenable to specific therapy. Transfusions are contraindicated in women of child-bearing age with mild anæmia as a so-called "tonic" and are rarely required to combat sepsis in this antibiotic age. In disease of the hæmopoietic system, especially anæmia, trans-fusions should be withheld, when clinically feasible, until all necessary hæmatological diagnostic studies have been completed. Otherwise transfusions may obscure the diagnosis.

In certain hæmorrhagic diseases due to deficiency of one of the more labile clotting components, especially prepared fresh blood or blood fraction is required to produce satisfactory hæmostasis.

Laboratory aspects of hæmolytic reactions.— Certain newer techniques may help in the prevention of hæmolytic transfusion reactions. The routine standard cross-match was devised to test for the presence of saline agglutinins. After the discovery of the Rh groups it was shown that in many instances hæmolytic reactions are caused by so-called immune blocking, protein, incomplete or developing antibodies and that these antibodies are not demonstrated by the ordinary saline cross-match. The routine use of the albumin or other high protein cross-matching adds little to the expense and technical time required. It has not been settled whether hæmolytic reactions resulting from transfusion with group O blood are due to "immune" type of A and B antibodies or are due to high titres of A and/or B agglutinins in the donor's plasma. The modern blood bank must have the rarer sera available for the identification of rare agglutinogens, for geno-typing and for the establishment of a panel of red cells with which to detect and identify rare antibodies.

The destruction of about 500 c.c. of blood within a few hours is required to produce sufficient bilirubinæmia to cause icterus; the peak of hyperbilirubinæmia is reached in about three to six hours after transfusion. Hæmoglobinæmia and hæmoglobinuria rarely develop and occur only in the presence of isohæmolysins or a high titre of immune antibodies. Methæmalbuminæmia is due to intravascular hæmolysis.

Pre-transfusion samples of blood from donor and recipient should be saved until all danger of reaction has passed. When a hæmolytic transfusion reaction is suspected, a routine should be established which should include the following:

1. Immediate collection of recipient's blood.
2. Record of fluid intake and output, blood pressure, temperature and pulse, every hour for 12-24 hours.
3. Search for hyperbilirubinæmia, methæmalbuminæmia, methæmoglobinuria three to five hours after resettion is supported.

action is suspected.

4. Re-grouping and cross-matching of donor and recipient using high protein and Coombs' cross-match.
5. When indicated, testing of recipient's plasma against a panel of red cells containing most of the known agglutinogens. In some instances, application of the Ashby technique may be required to demonstrate

shortened life span of transfused red cells.

6. Serial hæmoglobin, hæmatocrit and reticulocyte studies.

The therapeutic benefits of alkalinization of the urine and administration of cortisone or ACTH have not been settled.

Not all of the agglutinogens of the Rh group are antigenic. In the MNS group, the N agglutinogen has caused a number of reactions, the S agglutinogen may be antigenic and M is never antigenic. The Kell, Duffy, and Kidd factors have rarely caused incompatible transfusion reactions and the P. Lewis and Lutheran systems thus far have not been demonstrated to be antigenic. A and B as well as Rh and other agglutinogens may produce immune (or developing) types of antibodies.

III. CLINICAL MANIFESTATIONS OF HOMOLOGOUS SERUM HEPATITIS

Homologous serum hepatitis may be defined as a viral disease transmitted by the parenteral administration of human blood or its products obtained from carriers of the causative virus. The clinical manifestations of post-transfusion hepatitis are almost identical with those of naturally occurring acute infectious hepatitis.

The following representative case illustrates the manifestations and course of homologous

serum hepatitis following transfusion.

The patient, a 38 year old woman, received 500 ml. of blood during the course of a Cæsarean section. The immediate postoperative course was uneventful and she was discharged from the hospital on the tenth postoperative day. Eighty days after the transfusion she complained of headache, nausea and vomiting which persisted for 11 days. On the seventh day of illness scleral icterus and dark urine were noted. She was readmitted to the hospital on the nineteenth day, at which time she was asymptomatic but still jaundiced; the liver and spleen were not palpable. The serum bilirubin was 5 mgm. per 100 ml. and the sero-flocculation tests were strongly positive. The jaundice persisted for 26 days and by the forty-fifth day the serum bilirubin concentration had become normal and the sero-flocculation tests negative. Subsequent examinations showed the patient to be free of any of the sequelæ of hepatitis.

Although post-transfusion hepatitis and acute infectious hepatitis are believed to be distinct entities, it often is impossible to distinguish them. Nevertheless certain features may aid in making

the distinction between them.

Homologous serum hepatitis is less frequently associated with a prodromal period than is infectious hepatitis. When a preicteric period does occur, fever is less common in the patient with homologous serum hepatitis. Since resistance to infectious hepatitis increases after 35 years, the age of the patient may be helpful in differential diagnosis. The most useful clue leading to the correct diagnosis is the history of occurrence of the hepatitis two to five months after infusion of blood or plasma. This evidence in favour of post-transfusion hepatitis is strengthened considerably if another recipient of blood from the same donor develops hepatitis. If the patient has had what appears to have been infectious hepatitis in the past, the chances are that the hepatitis which followed transfusion is homologous serum hepatitis since one attack of infectious hepatitis usually confers immunity against a second attack. Since there is no cross-immunity between the two forms of hepatitis, a patient who previously had infectious hepatitis may develop homologous serum hepatitis.

Although on a numerical basis the thymol turbidity and flocculation tests are less frequently

positive in patients with homologous serum hepatitis, for practical purposes the laboratory features, biochemical and hæmatological, may be considered identical in the two types and therefore of no assistance in differential diagnosis. Similarly biopsy of the liver, although frequently helpful in the differential diagnosis of jaundice, offers no aid in distinguishing between infectious hepatitis and homologous serum hepatitis. It is to be hoped that the present difficulty in cultivating the viruses of hepatitis may be overcome, so that a method may be devised to distinguish the two forms of viral hepatitis.

The clinical course of post-transfusion hepatitis is practically identical with that of acute infectious hepatitis, with the jaundice persisting for as long as 20 to 40 days. Published reports indicate that the incidence of acute and subacute hepatic necrosis is higher in post-transfusion hepatitis. This is usually interpreted as reflecting differences in the nature of the causative virus. Might it not be due in part to the fact that patients receiving transfusions are already sick and may not be so capable of dealing successfully with a viral infection as are healthy persons?

No satisfactory method exists at present for protecting a patient against the development of post-transfusion hepatitis. Gamma globulin which has proved to be efficacious in prophylaxis against infectious hepatitis has been of little

value in homologous serum hepatitis.

IV. BACTERIOLOGICAL ASPECTS OF HOMOLOGOUS SERUM HEPATITIS

The syndrome of homologous serum hepatitis was little known until the early years of World War II. Findlay and his associates were the first to suggest that outbreaks of jaundice following yellow fever immunization might be due to a filterable agent, unrelated to the yellow fever virus and present in the human serum component of the vaccine. It is difficult in retrospect to ascertain the role of this type of hepatitis in the outbreaks recorded prior to that time. It seems probable that the epidemic of jaundice following vaccination with glycerinated human lymph described in Germany in 1885 represents the first outbreak that can be regarded as homologous serum hepatitis. In 1926 Swedish physicians described an outbreak of jaundice in patients attending a diabetic clinic.

It seems probable that many cases of late jaundice among syphilitic patients treated with arsenical drugs or bismuth may fall into this

category.

Etiology.—Patients with this form of hepatitis may be divided into two groups: (1) those who are infected by improperly sterilized syringes or needles employed in giving injections of such drugs as insulin or penicillin, or in withdrawing blood for various procedures such as the erythrocyte sedimentation rate or blood counts, or even during the procedure of tattooing; (2) those who

are infected by the administration of blood or plasma, or contaminated human blood products such as convalescent serum, fibrin foam, thrombin or vaccines containing human serum or plasma. As little as 0.01 c.c. has been shown to be infective.

Epidemiology.—No host other than man has been recognized. Attempts at cultures in embryonic eggs or transmission of the disease to animals have all been unsuccessful. No method for detecting the presence of hepatitis virus in blood, other than experimental infection of volunteers, has yet become available. The virus may be present in the blood of the host in the absence of previous, associated or subsequent symptoms of infection. It is observed more frequently in adults than in children, but this may be the result of more frequent exposure of adults to the mechanisms of transfer of hepatitis virus from blood and its derivatives.

The incidence of either symptomatic or asymptomatic carriers in the general population is difficult to determine. Studies of the incidence of hepatitis following the use of blood and plasma have provided some evidence that the minimal incidence of carriers is in the neighbour-

hood of 1%.

Since only extremely small quantities of plasma are necessary for infection, the introduction of one infected unit of plasma into a plasma pool is sufficient to render the entire pool infective. The incidence associated with the use of plasma pools consisting of five to 10 units was found to be approximately 1.5%. In large plasma pools consisting of 10 to 50 or more units, the incidence of hepatitis varied from 4.5 to 12%.

Characteristics of the virus.-Serum hepatitis virus is filterable and survives heating at 56° C. for at least 30 to 50 minutes. It resists boiling, but not autoclaving. It survives in the frozen state for several years and in a desiccated state for at least one year. It survives in serum containing Merthiolate in a concentration of 1:2,000 or in 0.2% concentration of tricresol. It is inactivated by exposure to ultraviolet light (2,000 to 3,000 Angstrom units) for 45 minutes but not in 100% of cases.

The virus of infectious hepatitis has the same characteristics regarding resistance to physical and chemical agents. Both diseases are much alike clinically, but there is some evidence that they are due to different viruses. The incubation period of serum hepatitis is long, two to five months; the onset of disease is insidious with minimal or no fever. The virus has been found in the blood as long as 30 days before the onset of jaundice. It is never found in fæces and is transmitted only by parenteral inoculation.

In infectious hepatitis the incubation period is much shorter-17 to 37 days. The virus is present in blood only shortly before the onset of jaundice and is present in fæces. The oralintestinal tract is the natural route of spread. The best proof of the duality of these infections is the absence of cross-immunity. Patients who have had infectious hepatitis are susceptible to serum hepatitis and vice versa. Moreover, normal human globulins are effective in preventing infectious hepatitis whereas they do not protect against serum hepatitis. It is not known whether this variation indicates a failure of production or maintenance of sufficient neutralizing antibody.

Prevention.-This is complicated because of the lack of methods for recognizing virus carriers. People with a history of jaundice should not act as donors of blood for transfusion. The duration of the carrier state is unknown. Clinical observations furnish evidence that serum hepatitis virus was present for two years in the blood of a patient with normal hepatic function. Another patient has been proved to be a carrier for five years. The resistance of the virus to physical and chemical agents is such that there is no practicable way to treat all products of human blood to render them safe. Heating at 60° C. for 10 hours inactivates the virus in the albumin fractions of the blood without influencing their therapeutic value. Ultraviolet irradiation of blood plasma is the best method for reducing the risks of pooled human plasma, but this method is not practicable for whole blood.

Gamma globulin used in the prevention of

measles does not contain the virus. However, virus has been found in the antihæmophilic fractions of the serum. The use of gamma globulin in prevention of serum hepatitis is, we repeat, of questionable value although some authors advise giving 10 c.c. of gamma globulin on two occasions, one month after transfusions of blood or

plasma are administered.

All instruments used for injection or aspiration of blood should be carefully rinsed and cleaned before sterilization in order to remove all traces of foreign material. Fifteen pound autoclaving is preferable to boiling. The use of an individual syringe for each patient is advisable.

These precautions eliminate the danger of transmission of serum hepatitis in routine medical care of patients. This point ought to be emphasized because this disease, rare at the present time, may become a real problem in the future if there should be a widespread increase of carriers among the general population.

V. PATHOLOGICAL CONSIDERATIONS

Hepatic lesions in homologous serum hepatitis. -Like the clinician, the pathologist cannot tell from the morbid anatomy alone whether or not hepatitis is of the infectious type or is of the homologous serum jaundice type.

In homologous serum jaundice the main organ affected is the liver. It is usually seriously damaged, at least in cases that come to autopsy, and may be reduced to half its normal size. Necrosis occurs with destruction and autolysis of liver cells. It begins about the second or third day after the clinical appearance of jaundice and has usually advanced almost to its end point within four or five days from that time. Beginning at perhaps seven to 10 days after the onset of jaundice there may be almost total removal of the cellular debris of destroyed liver cells. The necrosis is a rapid and violent process which affects large areas of the liver but does not affect the entire liver uniformly. The remaining liver structure, the stroma of the liver, the reticulin and collagen are not necessarily destroyed. They may be destroyed too, but frequently they may merely collapse. If the latter occurs, the possibility of regeneration with rather good restitution of liver architecture remains. If, however, the stroma is badly disrupted, then whatever regeneration of liver cells occurs will be in abnormal architectural patterns. There will be nodular hyperplasia and scarring, and the end result may be post-necrotic fibrosis or cirrhosis. Of course, the majority of patients survive and do not sustain quite such violent damage.

It is not so generally appreciated that there are lesions elsewhere in the body other than the liver during the first phases of this process. During the first week or so there may be found scattered through the body evidence of an inflammatory process, with lymphocytes and round cells in various organs. An orchitis is common in the first period of the disease with small collections of lymphocytes scattered through the stroma of the testes. Occasionally a myocarditis may be seen with inflammatory cells scattered through the myocardium. Evidence of a mild meningoencephalitis may also be found. The spleen is commonly enlarged. A normal splenic weight is about 150 grams but in serum hepatitis the spleen may be enlarged to between 200 and 600 grams in weight. Initially it is very friable and there is at least one case on record in which the spleen had ruptured and caused hæmorrhage into the abdominal cavity. It is fairly common in the initial period to see focal necrosis of the germinal centres of the lymph follicles of the spleen; in some lymph nodes also there may be a lymphadenitis, often with necrosis of germinal centres. Thus there is evidence in the initial period at least that the disease is a systemic one and that it is not confined to the liver. The liver, of course, remains the chief and important site of damage.

Renal lesions following transfusion reactions.— The state of the kidney following transfusion reactions will be only briefly mentioned. Lower nephron nephrosis has been discussed at previous Rounds; it will be sufficient to mention that one of the lesions following upon a transfusion reaction may be the precipitation of blood pigments in the nephrons with blockage of some of them. There is also a variable amount of actual damage. degeneration and necrosis of the tubular epithelial elements in the nephron. In addition, there may be a disturbance in renal circulation

associated either with the initial condition that required the giving of the transfusion or with the state of shock that may be associated with the transfusion reaction. The whole complex disturbance can, in some cases, constitute so-called "lower nephron nephrosis." Actually, the lesion is not confined to the lower nephron, and, as has been pointed out, the term "acute nephrosis" is not only much more exact, but also has historical precedence.

Clinical and Laboratory Notes

HIGH CALCIUM INTAKE IN THE LAST MONTH OF PREGNANCY

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Many investigators have shown that calcium plays an important part in uterine activity during the various stages of labour. That postpartum uterine contractions do not occur in the dog and in the rabbit, when available calcium is sufficiently reduced, has been demonstrated by Danforth and Ivy.1 According to Nalle,2 calcium plays an important part in preventing uterine dystocia by its quieting effect on the sympathetic nervous system as well as by its role in producing normal uterine contractions.

In the latter part of pregnancy, there is a fall in the serum calcium level, whilst the requirements of calcium and phosphorus then are almost double those of the non-pregnant woman.

Taking these observations into consideration, an increased supplement of calcium in the last month of pregnancy was considered worth a trial in the hope that it might have a favourable effect on the course of labour in normal cases.

One hundred patients in whom normal deliveries were anticipated, were given additional calcium in the last month of pregnancy, to be taken until labour started. There was no modification in diet, and the patients continued to take the vitamin and mineral tablets (containing 4 grains of calcium phos. dibasic) which are given routinely to all maternity cases, starting from the third month of pregnancy. Sixty public cases were given supplementary calcium in the form of calcium gluconate (Ca 9.31%), a 10 grain tablet to be taken three times a day an hour or so before meals (to avoid as much as possible the formation of calcium soaps). Forty private cases were given the supplementary calcium in the form of purified bone meal (calcium phosphate, tribasic, Ca 38.76%) five grains three times a day an hour or so before meals. The bone meal was

contained in a capsule in which the vitamins A, D, B complex, iron and a fraction of sodium iodide were included (Natalex).* About 10% of the patients taking calcium gluconate complained of heartburn, or regurgitation of gastric contents following the medication and it had to be discontinued. These cases were not included in the series. The Natalex capsule, however, was better tolerated as a rule, and the heartburn that was encountered occasionally was not disturbing enough to make it necessary to discontinue the treatment except in two of the 42 cases.

Of the 60 public patients, 32 were between the ages of 20 and 30, and 28 between 30 and 40. Fourteen were primiparous, and 46 multiparous. Of the 40 private patients, 28 were between the ages of 20 and 30, and 12 between 30 and 40. Twenty were primiparous and twenty were multiparous.

OBSERVATIONS

The progress and character of labour in all the patients taking increased supplementary calcium compared favourably with that in control cases. Once started, labour progressed steadily at varying rates and intensities until full dilatation of the cervix was accomplished. There was good uterine relaxation between the contractions, and the patients' reactions to the contractions were very good, except in one case, a breech presentation with dry labour, with which I will deal later. There was hardly any noise and no hysteria or panic right through the first stage of labour. There was no uterine inertia or tetany in any of the cases in this series; there were no precipitate deliveries. (Two multiparous patients had had

precipitate deliveries previously.)
The second stage of labour was less strikingly influenced than the first. Here, there was a fair amount of suffering, necessitating analgesia in the majority of cases, during the bearing-down pains. However, the duration was much shorter, and labour more efficient than in the control cases. The third stage of labour and the postpartum course were uneventful.

The results in the private cases (taking Natalex) were more consistent than in the public cases (taking calcium gluconate). Ten patients of this latter group did not believe that they were ready for delivery when asked to get on the delivery table. Two multiparæ volunteered the statement that they even enjoyed this last delivery.

Four cases in this series deserve special mention since the above general statements do not fully apply to them.

One multipara (public) had a uterine hæmorrhage six hours post-partum, cause unknown. In two multiparæ, of the same group, labour was relatively prolonged for this series, 12 to 14 hours for the first stage. Otherwise, the labour was quite satisfactory; the contractions were regular, efficient and fairly well tolerated by the patients. One private patient, age 30, gravida ii, para i had a comparatively short but very painful first stage of labour, with a breech presentation. The membranes had ruptured spontaneously 18 hours before labour started. This patient, who had been emotionally disturbed and confused for many years, developed an anxiety neurosis and became very apprehensive in the latter part of her pregnancy. The first stage of labour lasted six hours; uterine contractions were regular and efficient. Uterine relaxation between the contractions was good, but the suffering seemed to be extreme, necessitating two hyporetaxation between the contractions was good, but the suffering seemed to be extreme, necessitating two hypodermic injections of heroin during the first stage (1/24 grain, and one hour later, 1/12 grain of heroin). The second stage of labour was comparatively easy and the rest of the course was uneventful. The baby weighed seven pounds and 10 ounces. The previous labour, a vertex presentation with the membranes intact up to the onset of the second stage, had lasted for about 72 hours and the pains were so severe that surgical intervention had been contemplated. This baby weighed seven pounds and six ounces.

The increased intake of calcium did not seem to have any appreciable effect on the false labour pains. No deleterious effects resulting from the high intake of calcium were encountered in this series.

CONCLUSIONS

Calcium taken by mouth in the last month of pregnancy (together with vitamins and other minerals) in the suggested amounts, was found to have a favourable effect on the course of labour in normal cases.

As a whole, labour was shorter, more regular, and more consistently progressive, than in the control cases. The patients' tolerance of the contractions during the first stage of labour was generally better than in the control cases.

No deleterious effects resulting from the high calcium intake were encountered in this series (none of them was taking digitalis).

The increased intake of calcium had no appreciable effect on false labour pains.

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ANALYSIS OF 1.400 CASES OF ACUTE INJURY TO THE HEAD

Rowbotham et al.¹ have recently made a detailed analysis of the cases of 1,000 adults and 400 children who were admitted to the neurosurgical service of the Newcastle-upon-Tyne hospital with head injuries. The report confirms the work of other authors, for 444 of the cases in adults were due to road accidents and just over 19% of these accidents were fatal. The greatest proportion of the injuries occurred in the most productive period of life, and the authors stress the waste of human skills produced by accidents, the majority of which are preventable. The authors followed up a proportion of the patients to assess the long term results in relation to employment; it is interesting that of the 236 patients from whom replies were received only 10 were unable to work regularly.

^{*}Ayerst, McKenna & Harrison Ltd.

^{1.} ROWBOTHAM, G. F. et al.: Brit. M. J., 1: 726, 1954.

The Canadian Medical Association Hournal

published monthly by

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Editorials

FOUR INTERNATIONAL CONFERENCES

Between the beginning of June and the end of August, Four International Conferences* of psychiatrists, psychologists and allied disciplines, will meet in Eastern Canada. Experts from all over the world will come to discuss various aspects of a science whose youth or age can be emphasized with equal justification. For, since earliest times, men have found the mystery of their own nature and the why's and wherefore's of their actions more fascinating than the most remarkable technical achievements or the most impressive grandeurs of nature.

We are sure that our readers join us in warmly welcoming the numerous delegates from overseas and wishing them an enjoyable and stimulating visit here. This is surely a great occasion for Canada. It underlines the increasing importance of psychology and its medical counterpart, psychiatry, in our national life; and it also shows that Canada is playing a larger part in the world of science and learning, just as in the world of commerce and politics. It is good that our country's development should be in many directions at the same time so as to avoid over-emphasizing some aspects at the expense

The Fifth International Congress of Mental Health will be held at the University of Toronto from August 14-21, under the joint auspices of the World Federation for Mental Health and the Canadian Mental Health Association. This will be a notable happening and all those who can possibly do so should attend it. The scope of the Congress' endeavour is indicated by the General Theme "Mental Health in Public Affairs", which makes no concessions to the timid. The clinician preoccupied with the day to day struggle with illness may raise his eyebrows at such a heading as "Mental Health in Government Activities." But a little reflection shows that in highly organized societies such as we now see all over the world, there is bound to be a very close relationship between government activities and the mental well-being of the governed.

The carefully thought-out programme of the conference consists of a series of addresses by notable people at the plenary sessions and a number of technical sections which will meet during the mornings through the week. At the end of the week, reports will be made by the various sections to show what has been achieved. Every day during the late afternoon, round table sessions will be held to meet the needs and interests of special groups. A feast has been provided and the main difficulty will be that of choosing what to enjoy, especially when the organizers note strictly, but correctly, that "members will be expected to register for one technical section only." There will be no drones sauntering from blossom to blossom sampling a little here and a little there.

The International Institute on Child Psychiatry, which is concerned with the emotional problems of children under six, will take place on August 13 and 14. Sections of not more than sixty people will meet to discuss selected single cases from "different theoretical, cultural and professional viewpoints."

The International Conference on Group Psychotherapy is the first ever held and it is proper to emphasize the importance of this comparatively new development in psychiatric treatment. Interest in the sociological aspects of psychiatry, which one associates particularly with the late Harry Stack Sullivan, was aroused rather later than in its psychological and biological facets. This has had unfortunate consequences in a world that is changing with increasing speed. Unless we become aware of the effects of these changes upon the individuals who make up our society, it will be very hard to assist them to adapt at a rate which will be adequate for the

^{*}International Congress of Psychology, Montreal, June 7 to 11.

First International Conference on Group Psychotherapy, Toronto, August 12 to 20.

The International Institute on Child Psychiatry, Toronto, August 13 and 14. The Fifth International Congress on Mental Health, Toronto, August 14 to 21.

whirlwind forces released by our astonishing technology.

The group psychotherapist deals primarily with the smaller groups that are found in homes and schools and factories; in particular, with small groups of mentally ill people, where the interaction among the sick people themselves and their therapist can, when properly directed, result in a great reduction in the fears and tensions of those who compose the group. This reduced anxiety is reflected in the loss of distressing symptoms and the capacity for better adjustment to the world outside. Group psychotherapy has much to offer to the great, overcrowded and understaffed provincial mental hospitals, and it is regrettable that there is no special reference to them in the programme. However, many of the staff of these hospitals should be at the meeting and will no doubt raise the matter in the informal sessions.

Psychology and psychiatry are here to stay, because mankind has never been able to escape the problems which lie in their vast territory. The organizers of these four conferences are to be congratulated on the effort and energy which they have expended. We hope that they will be rewarded by a large attendance and lively discussions. We again urge our readers, whether specialist or general practitioners, to make an effort to attend at least one of these meetings which deal with matters so close to all of us, patient and doctor alike.

HUMPHRY OSMOND

THE 17TH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY

Amongst the growing list of international medical bodies the International Congress of Ophthalmology stands as having the longest continuous history. Although it is nearly 100 years since its first meeting in Brussels in 1857, this will be only the 17th Congress, due to interruption by wars and the fact that the meetings are held at four year intervals only. One meeting was held in New York City in 1876, so that this coming congress will be the second to be held on this side of the Atlantic. It will however be the first to be held in Canada. In the interval many Canadian and American ophthalmologists have attended the Congresses in other countries and have

built up close personal relations with their colleagues; and, too, there have been the constant visits to clinics and hospitals in the Old World. There was therefore a strong desire on the part of our adjoining countries to act as joint hosts to the International Congress and this, happily, has now been achieved.

Probably this is the first instance of an International Congress being carried on in two countries in the same week. This will add variety to a programme which in itself is extremely impressive.

The opening ceremony, on September 10 will be held in Montreal; a feature of this will be the presentation of the Gonin Medal to Sir Stewart Duke-Elder, whose work in the opinion of the International Council of Ophthalmology has contributed most to ophthalmology in the last four years. The scientific programme in Montreal will highlight panel discussions on Retrolental Fibroplasia and Virus Diseases of the Eye, with many other papers. The official languages of the Congress will be English, French and Spanish, and abstracts of the papers will appear in all three languages in the printed programme.

Our Association will be host at the official dinner to the International Council of Ophthalmology, and judging by those already registered there will be at least 37 different nations represented, including the U.S.S.R. and Yugoslavia. We welcome the 17th International Congress warmly on this its first visit to Canada. The scientific value of these meetings is great: possibly the beneficent influence on international relations is greater.

Editorial Comments

ATHLETIC COMPETITION FOR CHILDREN

The child athlete of today may be the adult athlete of tomorrow, but we must not forget that the physical and mental health of some children may be affected by certain undesirable aspects of teenage and subteenage athletics. The watchword should be instruction and not competition: of course this does not mean that there should not be occasional competitive games between schools—in fact these should be encouraged if the competitive aspect is subordinated to the good instruction of physical education and recreational opportunities for all the children of the school. These recreational activities should be designed for the particular age of the child:

tackle football and boxing are not recommended for young children. As Jokl¹ has shown there are considerable medical dangers in boxing: the effects of damage to brain-stem structures, the optic nerve and other parts of the nervous system are well known.

The Joint Committee report² summarizes the views of various members of the medical profession. There was general agreement that proper supervision was necessary, and most agreed that there was a likelihood of carrying fatigue to harmful exhaustion in children. One of the most harmful aspects of childhood athletics is participation in programmes involving high pressure tactics. There appears to be no doubt that highly organized leagues with overemphasis by the press and radio are dangerous. Obviously the psychological factors in the "desire to win" for the individual are deleterious in children, and these are the very aspects which are involved in high pressure advertising: the individual child rather than the team is stressed, especially in "all star" teams. Tournaments, frequent contests and "little bowl" games will make undue demands on the young: often because games are played at night or away from home. What an unnatural method of reaction for young children to be sent many miles away from home to play a game before a large adult partisan audience!

We must not forget that commercialism has taken a hand in this degrading of childhood sports. Some leaders may only be interested in their own financial or personal advantage. How much better it would be if organizations sponsoring a particular team could spread their financial resources for hundreds of teams allowing thousands of children to benefit from healthy recreational activities. W.F.T.T. help and advice in finding gainful occupation. Perhaps the biggest percentage of chronic disabled persons are those with cerebro-vascular disease, and here early and progressive rehabilitation will shorten the hospital stay, even if it will not lead to gainful occupation.

Unfortunately, often when a disabled person has been rehabilitated to serve a useful function in the community, he cannot find any occupation. Valuable creative gifts may have been restored, but no use for them can be found. The medical profession has some responsibility to the patient even after he leaves the hospital portals; where possible, employers should be urged to use some partially disabled persons in their factories. Employers should take some such persons not only as a matter of social conscience, but also of economic help to the country as a whole. In Great Britain it is compulsory for employers to hire a certain percentage of registered disabled persons, but it is debatable as to whether this would be acceptable in Canada. On the other hand, following Great Britain's example, some small "sheltered" workshops could be set up; here the workers, who are disabled, produce useful goods for the community without having to compete in employment with their full-bodied brethren.

The employment of the partially disabled person is the other half of the task of rehabilitation. Medicine and its auxiliaries do their part in putting patients on their feet and making them fit for at least some degree of employment. Much of the labour of rehabilitation will be wasted if such patients cannot obtain useful employment W.F.T.T. after their discharge from hospital.

DISABILITY AND REHABILITATION

The rehabilitation of disabled persons has been improved enormously in the past ten years, and the medical and nursing professions have become alert to the disastrous effects of long periods in bed without physiotherapy. The greatest efforts have been made by societies interested in special diseases, for example, multiple sclerosis or poliomyelitis: but the doctor, also, must keep abreast of methods and mechanical devices which will enable his patient to become employed usefully.

From the moment a patient comes under his care, the doctor must plan for the patient's rehabilitation on a long term basis, whether for life at home or for eventual return to work. It does not matter if a patient has a coronary thrombosis or amputation of a limb; he will need the doctor's

CENTRENCEPHALIC SEIZURES

Epilepsy has been known and described since the time of Hippocrates, but it is only in recent years that developments in neurophysiological research and neurosurgery have enabled a clearer classification to be made on etiological grounds. Penfield¹ has suggested the term cephalic" for those attacks which are thought to arise from the brain stem; and he divides epi-lepsy into centrencephalic, focal cerebral, and unlocalized cerebral types.

Recent research has shown that there is a special projection to the sensorimotor cortex separate from the projection systems carrying sensation. It has been called the ascending reticular activating system and may probably be

Jokl, E.: Medical Aspects of Boxing, Pretoria, van Schaik, 1941.
 Desirable Athletic Competition for Children, published by American Association for Health, Physical Education and Recreation, 1201 Sixteenth St., N.W., Washington, D.C.

PENFIELD, W.: A. Research Nerv. & Ment. Dis. Proc., 30: 513, 1952.

^{2.} Jasper, H. H. and Droogleever-Fortuyn, J. A.: A. Research Nerv. & Ment. Dis. Proc., 26: 272, 1947.
3. Penfield, W. and Jasper, H. H.: Epilepsy and the Functional Anatomy of the Human Brain (1954). Little, Brown and Company, Boston.

regarded as the "centrencephalic" system. This system is formed by the formatio reticularis of the pons and midbrain, the midbrain tegmentum, the basal diencephalic area and the intralaminar and reticular nuclei of the thalamus. This "centrencephalic" system has intimate to and fro connections with all cortical areas, and also receives connections from the main sensory pathways: it would be able to co-ordinate both motor and sensory areas of the cortex with the subcortical structures. Electrical stimulation of the thalamic reticular substance will produce widespread synchronous activity in the cortical electrencephalogram in animals, and it has been shown experimentally that cortical electrical rhythms can be altered by stimulation in various parts of the same system. [Jasper and Droogleever—Fortuyn (1947)].² This and other experimental work "supports the view that nervous mechanisms most directly related to conscious cerebral functions are located in the reticular network of the brainstem."

Centrencephalic seizures may be regarded as arising from this central integrating system and the electroencephalographic effects will occur in both hemispheres simultaneously. Petit mal must be regarded as the best known of centrencephalic seizures and is characterized by a very specific form of electroencephalographic change—3 per second wave and spike. The electrographic changes in the other centrencephalic seizures (myoclonic, petit mal, grand mal, and psychomotor automatism) are also specific.

Focal cerebral seizures may be classified according to the initial or most important ictal phenomenon, for example, sensory, motor or psychic. Again the electroencephalogram has a specific type of abnormality. Penfield's study of cortical stimulation in conscious patients has had a tremendous influence on neurology and psychiatry: probably the most interesting aspect is his observations on memory mechanisms. Memory is the ability to recall past experience, thinking and interpretations; Penfield has shown that electrical stimulation of the lateral and superior surfaces of the temporal lobes of the conscious human patient will reproduce some past experience or thought. It is apparent that these parts of the temporal lobes are the storehouses of memory, and a focal epileptic attack starting there may be ushered in by recollections of a song, a psychical illusion of fear or déjà vu phenomena. As Penfield points out the production of psychical phenomena by electrical stimulation is a startling discovery: at the same time he suggests that the formation of memory patterns depends upon neuronal circuits that pass outwards to the temporal lobes from the centrencephalic integrating system. He concludes "in the three processes of projection, recollection and interpretation the temporal cortex plays a part, but always in conjunction with the integrating mechanism of the brainstem."

The recent book by Penfield and Jasper3 contains something interesting to all doctors. This book is the result of study of 750 cases of focal cortical excision, and contains the authors' own experience with stimulation of the human cerebral cortex under local anæsthesia. Their observations on the second sensory and supplementary motor area are especially interesting: as are the results of stimulation elsewhere in the cortex. Electrophysiology and experimental epilepsy are described in relation to epilepsy as a whole. There are separate chapters dealing with the various focal types of seizures, and their diagnosis by electrophysiological and roentgenological techniques. McNaughton discusses in detail the diagnosis, treatment and handling of the epileptic patient by the physician. This excellent book concludes with a description of the surgical therapy of epilepsy and its results.

W.F.T.T.

PIERRE MARIE 1853 - 1940

Last year marked the centenary of the birth of Pierre Marie, famous for his contributions to medicine and neurology. Marie was born in Paris, and after studying law was called to the bar before studying medicine. He qualified in 1883 with a thesis on Graves' disease, in which he described for the first time the tremor of thyrotoxicosis. Marie served his internship under Charcot, and three years after qualifying he described with Charcot peroneal muscular atrophy. In the same year, 1886, he differentiated acromegaly from Paget's disease, leontiasis ossea and myxœdema: later still he differentiated pulmonary osteoarthropathy from acromegaly.

In 1889 he gave a series of lectures on diseases of the spinal cord which were published both in English and French. Between 1886 and 1900 he described two more bone conditions, ankylosing spondylitis and hereditary craniocleidal dysostosis. Perhaps one of his greatest neurological contributions was the description of hereditary cerebellar ataxia which had been associated previously with Friedreich's disease. Early in the twentieth century he became interested in aphasia and published a critical essay on the genesis of Broca's doctrine: this essay was to receive considerable criticism at the time. During the years of World War I he made important contributions on the effects of head injuries and peripheral nerve lesions.

Marie retired from the Salpêtrière in 1925, but his retirement was marred by the deaths of his wife and children. He himself became confined to a wheelchair. He died in April 1940 when the shadow of war lay darkly over his beloved country. Owing to the war years his death seems to have passed almost unnoticed in the English-speaking press: only two obituaries, and those very short, are available. W.F.T.T.

Men and Books

FRANCESCO FOLLI AND **BLOOD TRANSFUSION**

S. S. B. GILDER, M.B., Montreal

"When your Majesty says 'Let a thing be done', it's as good as done-practically it is done-. . ." Gilbert, The Mikado.

DESPITE ALL REPORTS to the contrary, it appears that on August 13, 1654, a Tuscan physician called Francesco Folli did not carry out the first blood transfusion from man to man. Nevertheless, in 1936 a memorial tablet to the "discoverer of transfusion" was set up at the house in Casentino, Italy, in which he was born, and no doubt the tercentenary of his "discovery" is being celebrated this month somewhere or other. It is of course nothing new for scientists to receive credit for something they have not done, but in this case the matter goes further, for Folli never really claimed to have carried out a transfusion,

except in his own mind.

Francesco Folli was born in the castle of Poppi in Tuscany on May 3, 1624. He became a doctor and after eight years' practice went to the court of the Medici in Florence, where in 1654 he gave a "demonstration" of transfusion to Ferdinand II, Duke of Tuscany. The Duke was not impressed, and soon after the event Folli was dismissed or retired in a huff to the small town of Citernal outside the Duke's domains, where he lived so secluded a life that he was unaware of the facts that in England in 1657 transfusion from animal to animal had been accomplished, and in France in 1667 Denys had actually transfused animal blood into human subjects. In 1680, Folli suddenly awoke to the fact that all this had happened and rushed into print with a volume Stadera Medica or The Medical Steelyard (Florence, G. F. Cecchi, 1680), in whose second section "Della trasfusione del sangue" he lays claim to priority as the discoverer of transfusion.

Mayrhofer* of Innsbruck gives an analysis of the relevant parts of the book, a copy of which he found in the Württemberg Provincial Library in Stuttgart, and shows just what Folli claimed

to have done.

In the first place, it is clear that Folli had no idea of treating disease by transfusion. His method was simply designed for rejuvenation of the elderly (men, of course; the Western matriarchy did not then exist). The use of the blood of young men for this purpose is recorded from a previous century, when one of the Popes was given (probably by mouth) the blood of three youths. All three donors died; what happened to the Pope is not recorded. Folli envisaged an "exchange transfusion" in which all the blood in the recipient's body would be replaced gradually by the blood of a series of 20 young donors in daily doses. In order to form some idea of the amount of blood required, he took a vessel holding 30 pounds of red-coloured fluid, and replaced the coloured liquid with water at the rate of one pound at a time until the mixture became colourless. The amount of water needed in this experiment was so great that he remarks that only princes or rich men could afford a transfusion.

In his Steelyard, Folli weighs the pros and cons of blood transfusion, "discovered by Francesco Folli and now described and dedicated to His Serene Highness, Prince Francesco Maria of Tuscany." He includes in the introduction an epigram by Folli, "the discoverer of blood transfusion," so that there is no doubt that he regarded himself as entitled to recognition. However, in his introduction, he starts by mentioning his "speculations carried into practice, so far as

this is possible on paper. . . ."

He speaks of his audience with Duke Ferdinand II in 1654, when his discovery of transfusion was demonstrated or manifested (manifestata). This statement, taken in conjunction with a drawing showing human arm-to-arm transfusion, has been taken to mean that he actually carried out a transfusion, a belief helped by his remarkably precise description of transfusion apparatus. But the crux of the matter comes at the end, when he says that it would be impertinent of him to give directions about an operation which he himself had never attempted.

Folli's only claim to a place in history lies in his careful description of apparatus with which direct blood transfusion could be carried out. For this, he depicts a cannula of gold, silver or raven quill, bent and introduced into an elbow vein of the recipient, and attached to a tube of hare's, cat's or dog's intestine or goat's artery, connected at its other end to a small funnel of ivory or bone attached to the donor's arm in such a manner as to receive blood from a vein incision. He was aware of the need to avoid introduction of air and clotting. He proposed to keep the connecting tube supple by storing it in brandy, and to aid propulsion of blood by milking it along the tube with the fingers.

Folli also has the merit of showing some very clear thinking on intravenous infusion. In another section of his book he mentions the advantage of introducing drugs directly into veins rather than by mouth where they are affected by gastric juice. In this field, he had advanced beyond theory. "I have made such experiments (on intravenous infusion) and will make more," he says. He then describes an apparatus consisting of a dove's quill cannula fixed to a lamb's or dog's bladder, by pressure on which the contents could

be expelled into a vein.

There is no reason, therefore, to be grudge Folli his memorial plaque, always remembering that he said "I told you how," and not "I told you how I did it.

[•]MAYRHOFER, B.: Med. Welt., 12: 473, 1938.

GENERAL PRACTICE

AT A LUNCHEON in the Palomar Supper Club of Vancouver, B.C., on Thursday, June 17, Dr. Fritz Strong, the President of the Canadian Medical Association, installed Dr. Murray Stalker of Ormstown, Que. as the first President of the College of General Practice of Canada. This is serious business, as the starting of a new medical group in organized medicine is not undertaken lightly. Dr. Stalker in accepting the honour gave a very thoughtful address, which is reproduced below.

Dr. W. B. Hildebrand, bringing greetings from the American Academy of General Practice, stressed the value of history and quoted Thucydides as saying that history was philosophy

learned from examples.

"Such thinking in 1947 in the City of Philadelphia, Pennsylvania, prompted 17 intrepid general practitioners from all sections of the United States to meet and lay the foundation for what is now the American Academy of General Practice. The spectacular rise of this organization to a position of high respect and eminence in American medicine and its growth to nearly 20,000 members in seven short years speaks well for the vision of those men and for the acute need of such an organization. Today, seven years later nearly to a day, we gather here to celebrate an historic occasion, that of the installation of the first president of the College of General Practice in Canada. At this time, may I, in my capacity as President of the American Academy of General Practice, bring to the College of General Practice of Canada our heartiest congratulations and wish you every success in this new venture in Canadian medicine."

Dr. Hildebrand pointed out that for any new medical society to be successful, its organization must fulfil certain criteria: (1) There must be a valid reason for organizing. In this case the organization was the inevitable result of two opposed pressures, the growing public demand for more and better family physicians, and the increasing difficulty in the education and hospital utilization of such physicians. (2) The new society must fill a need. This need, the need for an organ through which the family physician could speak, existed. (3) There must be a desire for such organization. In the U.S.A. such a desire had lain dormant for years before the Academy of General Practice was formed. (4) The new movement must be completely accepted by all other organized medical groups. In this respect the College of General Practice of Canada was more fortunate than its American counterpart which had had to gain acceptance after its formation.

Dr. Hildebrand repeated, as an aid in developing personal attitudes to the College of General Practice, a message sent to his own Congress of Delegates by the Vice-President of the Academy of General Practice, Dr. Merrill Shaw, who then lay dying of cancer. Dr. Shaw said, "The greatest general practitioner of all time has not seen fit to measure my time to permit me to address you this year in person. The American Academy of General Practice has done so much for me that it would indeed appear ungrateful if, in parting, I did not attempt to explain in some measure the obligation and gratitude I feel. The Academy has been an agency through which I was permitted, God willing, to have an outlet to develop and expand certain idealisms and convictions which as an individual without the Academy would have died with me. I account the Academy directly responsible for the few professional years which have been the happiest of my life in terms of association and respect. I don't know how to repay the Academy. If my experience has produced any wisdom, I think that the advice I would leave with you would be this: keep the Academy high and strong; tolerant, helpful, and progressive. Quarrel with no one or no group. For all general practitioners make the Academy a goal once a member keep it an inspiration.

Dr. William Pickles, the President of the College of General Practitioners of the United Kingdom, sent a cordial and sincere message of congratulations and good wishes. He had had the happy thought of conveying this on a Dictabelt which brought his voice to us.

Dr. T. C. Routley followed with an interesting presentation to our President. About a year ago, when Consultant General to the World Medical Association, he had asked Dr. A. Mantellos of Greece if he could obtain for him a piece of wood from the Island of Cos, the birthplace of Hippocrates. From this wood Dr. Routley hoped to have a gavel made. He heard nothing further of the matter until this spring when he received a gavel, entwined with a serpent, the whole beautifully carved from one piece of wood taken from a plane tree believed to be 3,000 years old. This was prepared by the Hippocratic Medical Society of the Island of Cos, the oldest medical association in the world, and dating back to 400 B.C. Accompanying it was a scroll signed by the officers of that society. This, indeed, is a unique gift to the College of General Practice.

When the College added up the score of its inauguration ceremonies, together with the results of its other initial meetings in Vancouver in June, it felt reasonable grounds for encouragement and optimism. The early support given it has been much greater than its expectations.

By June 30 some 400 applications for membership had been received. There were 135 donations to the Foundation Fund. The receipts from donations and dues were \$21,500. It is planned to inform the membership of the College by newsletter every two or three months of its activities and progress.

The College is founded on the belief that it will do several things; that it will prove to ourselves and to those for whom we work, that we respect general practice as it deserves, and take pride in it. Also, it will show that we appreciate our duty to maintain and improve our standards, and to make ourselves ever better and more useful general practitioners.

Its success in doing these things is dependent entirely upon the support given it by the general physicians of this country. It must always rely upon the wisdom and good judgment of these individual physicians everywhere. It pleads for their interest and assistance. Information about the College may be obtained from its office at 176 St. George St., Toronto, Ont.

THE COLLEGE OF GENERAL PRACTICE OF CANADA*

MURRAY STALKER, Ormstown, Que.

I WISH TO EXPRESS my deepest appreciation for the great honour that has been given me of being elected the first President of the College of General Practice of Canada. I accept this only in the spirit that this honour and responsibility are equally divided with all those who have given so liberally of their time and their abilities during the years of development. The formation of this College by the general practitioners themselves under the auspices of the Canadian Medical Association marks the fulfilment of an unsatisfied need in our profession.

As a prelude to the serious words that I have to say to you on this historic occasion in Canadian Medicine, I wish to relate an anecdote about Mark Twain. It was known that he was a man of many moods and that his language could be extremely profane. One morning, while shaving, he cut himself and his language became very extravagant. The razor and towel were thrown out of the open window. His wife who disliked this characteristic and had hopes of curing him of it was just outside the door and as he came out, she, in a very serious tone, mimicked his words including all the profanity. He solemnly looked at her and when she had finished said, "Livy, you have the words but you haven't got the tune."

To-day I would speak to you about the philosophy of the new College of General Practice of Canada and unlike the wife of Mark Twain, I think I have the tune of all those who helped and assisted in its development but may not have the words.

*The Presidential Address delivered at the formal inauguration of the College of General Practice, Vancouver, June 17, 1954.

The basic unit of our society is the family and the family doctor is a member of that unit, not only as physician but as guide, counsellor and friend. He is available to all members of the family in times of trouble but he likewise is the welcome guest of every home. He is, in addition, the most important member of our profession. We cannot envision any society without this important part of our profession and yet we have been in danger of losing him, not only in numbers but in quality, The cause is not difficult to find.

During this century the advances in medical science have been phenomenal. As Professor A. N. Whitehead says: "Of all the forces of civilization (not purely materialistic) that directly affect humanity, the success in the field of medicine has far outstripped any other endeavour in recent years." The family physician has been and should continue to be the finest flower in the field of medicine, yet it has been the growth of our own medical science that has tended to smother this flower. During recent years the glamour, precision and magnetism of the scientific approach of specialism has been drawing a great many of our young graduates from this broad and necessary field of family practice. More men are needed in general practice. We believe that every family in Canada should have a family doctor who would care for 90% of preventive and curative medicine and counsel them on the employment of specialist services for the remainder. This work calls for our best young graduates. It is too often taken for granted that because of the rapid advances in science the general practitioner has not been able to keep up to date. A very large number of good practitioners across Canada has proven that this is not true. It is our hope that this new College of General Practice will help and stimulate the family doctor to retain his position in this changing world, to the advantage of both the profession and the public.

It is not only that we hope to maintain within the ranks of our profession the guide, counsellor and friend of the family unit. We believe that he has a place in the scientific team. Let me give two simple examples. Joslin, of diabetic fame, has stated that there are two million diabetics in America and that only one million have been recognized. It therefore seems evident that if the benefits of Banting and Best's discovery and the teachings of specialists in metabolism are to be passed on to the Canadian people it will require the active efforts of good clinical practitioners. Secondly, we all recognize the prevalence of malignant disease in our population of increasing age. If cancer is to be recognized early enough for effective treatment it will not be done by Cancer Institutes but by alert and well trained general practitioners. Similar examples can be found in any part of preventive and curative medicine.

With this extremely rapid development of medical science there has been of necessity an equally great change in the economics of medical practice. We all know how rapidly this is coming upon us. At the present time we see "as through a glass darkly" what may be the future. Regardless of the trend towards health insurance, voluntary or compulsory, with more and more state interference, it is the firm belief of the leaders of our College of General Practice that it is imperative to maintain a high level of ethical and scientific practice in family and general practice. There is much evidence to prove that where the state has assumed control and freedom of action has been taken from the profession, the first part of the service to degenerate is that of family practice. We have strong convictions that we can make a contribution in this connection. Our efforts will not be political. It will be our main function to develop efficient family doctors, to accredit them and to maintain standards. We believe that if efficient family doctors are available to the large majority of our citizens, the evolution of these economic changes will be healthier and much more secure.

To-day the most important subject of medical public relations between government, the people of Canada and our profession is the total cost of medical care. In Marie Antoinette's words we are saying to the people of Canada, "If you cannot afford bread then eat cake."

It is our belief that a large amount of the service that is being supplied by departmentalized medicine in large and expensive institutions can be supplied by the practitioner in his office at much less cost. The family doctor is generally the best guardian of the family budget for medical care. This is a challenge to the leadership in our profession. If we cannot deliver our service within the budget of our nation's standard of living, then the quality of our service is certain to decline, regardless of who directs the service.

This, then, briefly is the substance of our thinking about the need for another member in the family of organized medicine. The family doctor and general practitioner is a vital member of the team of scientist, teacher, specialist and practitioner which supplies medical service to our nation. His development has been retarded by our emphasis on the other members of the team. We hope to give him support and cooperation. We also believe that since the general practitioner should supply 90% of the medical needs of the nation and because we have intimate knowledge of these needs in the vast field of preventive and curative medicine, we can make a worthwhile contribution in medical economics.

How then may this idealistic philosophy be changed into practical reality? We would like to point out that the great benefits derived from the Royal College of Physicians and Surgeons of Canada were not obtained in the first year: we envision a long range programme.

Our broad objective is educational. This educational approach is undergraduate, immediate postgraduate and throughout the life of the practitioner. We say this with great humbleness as we realize fully the magnitude of our ambitions. There are those who claim that our educational objective throughout the lifetime and career of the practitioner is impractical idealism. Our answer to that is that pure science is also impractical and that a combination of scientific research, the art and science of general practice and the precision of specialism is a necessity in the development of an efficient medical service.

In connection with this broad objective of medical education I wish to quote the words of Dr. J. W. Reid in his Presidential address at the Nova Scotia centenary last year.

"What is the future of medical practice and medical education? Can the medical schools anticipate the trend and train the youth to meet the changed conditions or must they, like the politicians, follow the mob because they are their leaders? There is a challenge to medical educators today, a challenge which all are fearful to accept, the challenge of complete and drastic revision of the medical curriculum."

As our name "The College of General Practice" would imply we must accept our share of this challenge. Since the practitioner, more than any other member of the profession, understands the background and the needs of family medicine, it is our claim that we can make a contribution in medical education. We do, however, wish as an organization to study the problems and to sit in consultation with other member organizations.

At this time and in connection with undergraduate and immediate postgraduate training we have only one suggestion to offer. It is that the practitioner's primary training should largely be in diagnosis and this should encompass the whole individual. Let us for a moment think of the road over which we have travelled. Fifty years ago the doctor made his diagnosis by means of his five senses, the benefit of reason and a few primitive instruments. Contrast that with the modern clinical set-up in a large hospital. Our citizens have been conscious of this fact and have asked our governments in various parts of Canada to set up diagnóstic centres. It is, therefore, not without reason that our College has taken as an educational objective the wide field of general diagnosis. It is our belief that there is a way to develop practitioners who can study the earliest symptoms and signs by using psychology, anatomy, physiology and pathology, and with the assistance of basic laboratory equipment will be able to arrive at a sound diagnosis in a large percentage of cases and at a reasonable cost. This should be the principal function of the modern general practitioner and it is applicable regardless of where he practises. It is in this basic manner that we believe that

the revered family doctor of old may evolve into his modern counterpart. He will in most instances either unite with others or co-operate with his fellow practitioners and the need for government to enter the field of diagnosis should be remote.

It has been suggested by some that the practitioner of the future would be only a psychologist who would act as a large road sign directing all medical traffic to the twenty-five or more specialties. This, of course, is contrary to all our beliefs. Anyone who has tried to cope adequately with all the problems which a practitioner encounters realizes that such a suggestion cannot result in a progressive, functional economic service to our people. In addition, merit must be rewarded by freedom. If a practitioner wishes to excel in any branch of medicine and can prove his skill he should be given his opportunity. Our programme for the continuing education of the practitioner throughout his career is much more concrete. It will be necessary for a member of the College to partake in a minimum amount of postgraduate activity throughout his life if he is to maintain his membership. It is in this man-ner that we have faith in the development of unity between scientist, teacher, specialist and practitioner. We believe that as this programme grows universities, teaching hospitals, non-teaching hospitals and practising physicians can be integrated throughout the length and breadth of this land. In addition to a recipient type of postgraduate activity we hope to develop the principle of participation of every physician. He will participate in the reporting of cases, presentation of cases at staff meetings, development of investigations and research and in many other ways will become a valuable member of the professional team.

This programme is under the stimulation and overall supervision of our Executive Director and I am pleased to report that already in several places in Canada this has gone beyond the stage of theory to that of practical reality.

As has been stated in the first half of this century medical science has given to the world great benefits. It seems so evident that at this time in our history it is the job of organized medicine to develop a better means of distribution of these benefits at a cost within the standard of living of our nation and with justice to our profession. The College of General Practice of Canada is the child of the Canadian Medical Association, The Canadian Medical Association represents all the many parts of our profession. We also represent a large and important part of your membership. We ask the privilege of working in partnership with you to search for and to find a better way and a better means of distribution of these benefits to every citizen of Canada. We have faith in the dignity and the destiny of the general practitioner for the benefit of Canadian medicine and the Canadian people.

Association Notes

IMPRESSIONS OF THE ANNUAL MEETING

AN APPROPRIATE OPENING

IT WAS APPROPRIATE that the proceedings of the Annual Meeting should be ushered in by our colleagues of the Federation of Medical Women of Canada. They had arranged that members of the CMA should be invited to take part in morning service at the Anglican Cathedral of Vancouver; the response to their invitation was excellent, and Drs. C. W. Burns and Marjorie Bennett discharged without faltering their lesson-reading duties. The witty and forceful sermon preached by the Dean, Dr. Burke, was more than worthy of the occasion. He pointed out that medicine, like the priesthood, is a vocation and a divine profession. Touching on psychosomatic medicine, which is a subject well recognized in the Bible, he referred to the physician-preacher team of SS. Luke and Paul as a pattern for all later activities of physical, mental and spiritual healing.

SCIENTIFIC EXHIBITS

The University of British Columbia was on its mettle, and produced some nice pieces of work for our inspection. With the growing interest in the epidemiology of chronic diseases, the activities of the UBC Multiple Sclerosis registry started in January 1953 are to be commended. They have already registered some 216 cases out of an estimated 600 in the province; it is significant that 64% of the patients are working either full-time or part-time. The neurological exhibit also attracted attention; research projects illustrated include the survey of photomicrographs of nailbed capillaries to take place this summer. The Canadian Arthritis and Rheumatism Society had an instructive teaching exhibit, and the B.C. Cancer Institute and B.C. Medical Research Institute also contributed to the display. There was teaching material on multiple myeloma, cystinuria and hydatid disease in B.C. (the lastnamed from St. Paul's Hospital, Vancouver)varied fare indeed.

THE ART SALON

The most striking features of the Physicians' Art Salon were the high quality of the work exhibited and the wide range of subjects chosen. Modern doctors are sometimes accused of being technicians with a low cultural level. A visit to the Salon, which was as usual sponsored by Frank W. Horner, Ltd. of Montreal, would convince anyone of the absurdity of this charge. The judges had an unenviable task in making a choice from the plethora of good things. Physicians had drawn their inspiration not only from

the Canadian scene but also from Europe and Central America. Thus the street scenes included a cafe in Mallorca, and corners of Torremolinos and Venice, and the portraits a Bermudan taxi driver and a particularly wicked looking Mexican, José. To the sponsors and the artists we say, "Thank you for providing so much to delight the eye."

COLOUR TELEVISION

In the press of social engagements, personal reunions and business meetings, visitors to a Medical Association Convention sometimes tend to neglect the all-important postgraduate teaching programme. The sessions of colour television provided by the courtesy of Messrs Smith, Kline and French of Montreal and telecast from medical centres in the city to viewers in the Banqueting room of the Hotel Vancouver during three days of the meeting proved an immense attraction and must have made a huge contribution to attendance at clinical teaching demonstrations. A word of praise, incidentally, to the charming usherettes-Vancouver nursing students-who so graciously helped viewers to find seats. Television even overflowed from the educational into the entertainment world, the proceedings at the Council Dinner being helped along by a programme from the Willow Chest Centre.

EXHIBITORS' SECTION

The great popularity of the colour television programme and the close proximity of the viewing hall to the exhibition hall meant that the representatives of the pharmaceutical, surgical instrument and ancillary firms had a satisfactory flow of interested visitors. There was a sort of pendulum movement of physicians from the television hall to the commercial exhibits and back again, which contributed no little to the dynamics of the meeting. As always, we marvelled at the ability of the representatives to remain affable through five strenuous days, and to greet each questioner as though he were the most important person in the place.

REHABILITATION

We were glad to have had an opportunity to visit the remarkable Western Rehabilitation Centre so dear to the heart of our President. Perhaps no branch of medicine calls for that rare quality, long-term enthusiasm, to such an extent as rehabilitation does. Everything about the Centre reflected the energy, the persistence and the patience needed to bring back the physically disabled into the labour market. We are proud to think that the CMA is taking a hand in this rewarding and necessary work, and we hope to see the day when people will come to Canada to learn the art of turning the disabled into productive and happy citizens.

Public Forum

What a thirst for knowledge there is in Vancouver! The Public Forum held in the Georgia Auditorium was a "sell-out." No less than 2,400 persons braved pouring rain to hear five experts discuss recent advances in medicine. The panel consisted of Sir Howard Florey, who spoke on antibiotics, Dr. H. Segall, who told the story of modern cardiology, Dr. M. Weaver, who talked about medical education, Dr. A. Chute, who described advances in pædiatrics, and Dr. C. Sturgis, President of the American College of Physicians, who dealt with pernicious anæmia. The thought struck us that if these five men were professional lecturers instead of public-spirited medical men no impresario could have afforded to present so much talent on the same bill. But our profession gives such services as a matter of course.

PLEASURE CRUISE

We have to thank the B.C. Division for a good many things, but particularly for arranging a delightful twilight cruise on the C.P.R. steamer "Princess Marguerite." The weather, which had been most extraordinarily unkind to the Meeting, did its best to damp the spirits of the ship's passengers and to blot out the landscape. Its efforts were in vain. Masses of doctors and their ladies surged aboard determined to enjoy themselves, and treated the weather with the contempt it deserved. We stood on deck enthralled by the majesty of the mountains surrounding Howe Sound, and recalling the Norwegian fjords. When the gathering darkness drove us in, we found as merry a scene of dancing, eating and general activity as could be wished for. Truly a memorable evening.

ANNUAL GENERAL MEETING

This, the only truly formal occasion of the Annual Meeting, contrived to pass off on the Wednesday evening without the slightest trace of that tedium which always threatens events at which academic dress is worn. Guest speakers and fraternal delegates were introduced, and then came that stirring moment when the "old guard" of the profession receive their well-merited Senior Membership. At least one of the recipients really didn't look old enough for the honour, though the programme assured us that he was turned seventy.

The President, Dr. G. F. Strong, was duly installed and immediately won all our votes by making the shortest possible Inaugural Address. Finally the Association paid its public tribute to the person to whom it owes so much—its retiring General Secretary, Dr. T. C. Routley—and he, as is right and proper, handed over a portion of the tribute to his wife. To speak of retirement, however, when there is a CMA-BMA Presidency and a mammoth meeting in Toronto next June looming ahead seems a misuse of the word, if retirement be regarded as synonymous with rest and leisure.

MEDICAL SOCIETIES

INTERNATIONAL CONGRESS OF PSYCHOLOGY

From June 7 to 12, Montreal was host to more than a thousand psychologists attending the Fourteenth International Congress of Psychology. Over 30 countries were represented. Organized by the International Union of Scientific Psychology, the Congress was sponsored by both the Canadian and the American Psychological Associations. Sessions were held at McGill University of the University of Montréals. Finglish and French and at the Université de Montréal; English and French were the official languages.

Too often Congresses consist of an uninterrupted flow of papers on the most varied and unrelated subjects. An attempt was made this time to modify such a frustrating and exhausting formula. The topics of discussion were limited to 24 symposia covering the major aspects of contemporary psychology. Authorities were selected to give contributions in their particular field of work.

A greater unity and more coherence thus prevailed in the programme, but even so it remained quite heavy:

mearly 100 papers in four days, films of psychological interest morning and afternoon, evening addresses by international "stars," such as Tolman, the reformer of behaviourism, Piaget, the father of genetic psychology,

penaviourism, Piaget, the father of genetic psychology, Penfield, the explorer of the human brain, Michotte, representing phenomenology and Gestalt psychology.

A complete review of the Congress would not be feasible. We shall try to detect in the proceedings the main trends of scientific psychology as it stands today.

Academic psychology has for a long time disregarded conscious phenomena and psychoanalytic studies. To be "scientific" meant to measure sensitions to experiment

meant to measure sensations, to experiment in a laboratory, to invent and validate tests. At the other extreme, were found those who would consider faculties of the mind and character as real entities, clearly defined and perfectly static. One could not but notice, at this meeting of professors and scientists from all parts of the world, how isolated in their respective systems were both the uncompromising defenders of orthodox Pavlovism and the belated philosophers of the

"European" school of characterology.

Sensory psychology suffered a serious set-back. "Does the cat have colour vision?" was the title of a communication this year, but such titles were exceptions, whereas, not very many years ago, they were typical of what one thought fit to discuss at a congress of scientific psychology. Psychologists are now more concerned with the dynamics of human behaviour.

It is noteworthy that, in spite of the ever increasing applications of psychotechnology in our modern world, only the projective techniques were examined at the Congress and that two speakers out of four related personality tests to psychotherapy or psychoanalysis.

From the fields of neurophysiology, statistics, and genetic psychology came very valuable contributions. Information theory is a new branch of psychology, with a promising future. Learning and conditioning are still basic concepts in psychological theory, with the emphasis moving to the mechanisms of motivation. Phenomenology has lost none of its vitality.

An important symposium was held on "The Present Status of Freudian Theory." This fact alone shows the status acquired by psychoanalysis, now fully recognized as an integral part of scientific psychology. Its growing influence was also manifest in the discussions of other

Social psychology proved to be, with psychonanalysis, one of the major fields of interest and research in the recent developments of psychological science. The boundaries between the two are not clear-cut; in fact, they offer complementary approaches to the fundamental problem of communication in clinical psychology.

As Prof. Lagache pointed out, the process of socialization cannot be thoroughly understood without taking

into account the phenomena of identification, discovered by psychoanalysis. On the other hand, the difficulties implied by the identification mechanisms must be solved implied by the identification mechanisms must be solved by social psychology: an individual always assumes a role in relation to the roles of others in the group. Thus unconscious identifications, as well as social roles, become interdependent, and the psychologist must be able to utilize as reference systems both psychoanalysis and social psychology.

J. B. BOULANGER

THE CANADIAN ASSOCIATION OF PHYSICAL MEDICINE AND REHABILITATION

Dr. A. T. Jousse, Toronto, was elected president of the Canadian Association of Physical Medicine and Recanadian Association of Physical Medicine and Rehabilitation June 4, at the second annual meeting of the Association in Osler Hall, Academy of Medicine, Toronto. Dr. Jousse, internationally recognized for his pioneer work with paraplegics at Lyndhurst Lodge where he is medical superintendent, heads the national association formed last year to link doctors of physical medicine across Canada. Canada.

Other officers elected at the one-day meeting were: Dr. G. H. Fisk, Montreal, vice-president; Dr. Gustave Gingras, Montreal, secretary; and Dr. M. Mongeau, Montreal, treasurer. Members attended from Alberta, Ontario and Quebec, and visitors came from the United States. Others present were orthopædic surgeons, psychiatrists, physical and occupational therapists and allied specialists who make up the physical medicine and rehabilitation treatment teams.

Guest speaker at the evening dinner in the King Edward Hotel was Dr. D. J. Galbraith, Toronto, former vice-chairman of the Workmen's Compensation Board, Ontario, who has been in Haiti helping the government with the operation of a workmen's compensation plan. He told the physiatrists and their guests that now they were established as a professional body with members performing vital medico-social services in their communities they must perform a further public service and make the concept and achievements of physical medicine better known and understood throughout Canada.

better known and understood throughout Canada.

Ten technical papers presented by member doctors included "Pitfalls in the Treatment of Athletic Injuries" by Dr. T. H. Coffey, University of Western Ontario, London; "Physical Medicine in Private Practice" by Dr. J. Berkeley, Windsor; and "Problems in the Education of Physical and Occupational Therapy Technicians" by Dr. G. H. Fisk, McGill University, Montreal. Other doctors who delivered papers were: Dr. Gustave Gingras, Dr. M. Mongeau, Dr. J. Mergler, Montreal, and Dr. G. A. Lawson, Dr. H. V. Cranfield, Dr. J. R. McRae, Dr. J. A. O'Reilly and Dr. M. W. Chepesuik, Toronto.

Pioneer work in physical medicine treatment and rehabilitation of disabled at Sunnybrook Hospital was described by Dr. G. A. Lawson. The report of a one-year research study of multiple sclerosis cases by Dr. H. V. Cranfield and Dr. Wilfred Boothroyd, Toronto, showed that half the patients improved physically and two-thirds psychologically with physical medicine treat-

two-thirds psychologically with physical medicine treat-ment. The study was sponsored by the Central Ontario Chapter of the Multiple Sclerosis Society of Canada with financial assistance from the Atkinson Foundation, the Ontario Government, business firms, associations and

private citizens.

Dr. Gustave Gingras, medical director of the Rehabilitation Institute of Montreal was co-author of two papers delivered, "Psychiatric Studies in a Series of over Fifty Paraplegic Cases" and "The Problem of Rehabilitation in Geriatric Amputees of the Lower Extremity." Dr. Gingras returned this week from Venezuela where he established South America's first rehabilitation pilot centre for disabled persons.

42nd ANNUAL MEETING OF THE CANADIAN PUBLIC HEALTH ASSOCIATION, CHATEAU FRONTENAC, QUEBEC CITY MAY 31 TO JUNE 2, 1954

One of the highlights of the meeting was the first Canadian Medical Care Conference which convened in conjunction with the Association. The purpose of this conference was to provide a medium for discussion between various agencies interested in or providing medical care to the Canadian people. Among those who attended were medical officers and technical personnel of federal, provincial and local Health Departments across Canada as well as representatives of medical care plans, insurance companies and others providing hospital or medical care. On the first day of the meeting, conference members had joint sessions with sections of the Canadian Public Health Association where subjects of general interest were discussed. Of considerable interest to the gathering was the gracious bilingual atmosphere that was created throughout the meeting. Some of the discussions were held in French and others in English.

Three general subjects were discussed at the Conference; (1) reviews of types of medical care plans in Canada, (2) the administration of plans providing physicians' services, (3) medical care for the indigent.

The meeting was opened by a provocative address by Dr. Antonio Bossinotte, Director, Division of Public Charities, Ministry of Health, Quebec, concerning the relationship of infant mortality to births in hospitals. Dr. Bossinotte provided statistical data to suggest that infant mortality rates amongst infants born in hospitals in Quebec were lower in 1952 than in other provinces, even though 66% of births occurred in hospitals in Quebec as compared to 80 to 90% in other provinces. This may be a statistical artifact, and suggests further study.

In discussing the utilization of hospital beds, Dr. Odin W. Anderson, Research Director, Health Information Foundation, New York, pointed out that studies in Canada and the United States have indicated that those individuals with hospital insurance coverage receive more service than those who are without hospital coverage. Individuals covered by insurance plans have more out-of-pocket medical expenses than those without insurance. This includes such items as the purchase of drugs, medical bills, and extra charges of different kinds.

Three speakers from Saskatchewan described various aspects of the hospital and medical care programme in that province. Dr. F. B. Roth, Deputy Minister of Health, stated that in his province the utilization of hospital services since 1947 had been much greater in rural than in urban areas. For the year 1952, 321 hospital cases per 1,000 population occurred in rural areas as compared to 38 cases in urban centres, (population over 1,000). This higher utilization rate in rural areas can be associated with various social, economic and environmental factors such as: density population, large families, greater distances to travel and fewer doctors. At the same time, there are usually more hospital beds per capita in rural than in urban areas. Dr. Roth pointed out that multiple admissions to rural hospitals and the admitting of minor sicknesses and injuries had been chiefly responsible for the higher hospital utilization in these areas.

Dr. Milton Roemer, Director, Medical and Hospital Services, discussed Public Assistance Beneficiaries in Saskatchewan, and indicated that the old age security group constitute about 50% of the public assistance cases. This may account for the higher utilization and longer stay in hospital among public assistance cases

than occurs in the total population. He reported that the cost of public assistance in Saskatchewan in 1953 was \$15.00 per beneficiary, and was of the opinion that the same high quality of medical care was given to everyone whether they were beneficiary cases or not Dr. Roemer believes that many factors are responsible for the quality of medical care including professional education, diagnostic and treatment facilities, the impact of laws and customs on medical practice, and reviews of medical accounts. He stated that under a health insurance plan you cannot separate quality from quantity of medical services.

In discussing commercial health insurance in Canada, Mr. Bruce R. Power, Secretary and Actuary, Canadian Life Insurance Officers' Association, described various types of commercial health insurance policies, contracts, and benefits in Canada. He referred to the recently released booklet, "Financing Health Services in Canada' which indicated that nearly five and a half million Canadians had some form of voluntary hospital expense coverage at the end of 1952. Approximately four million enjoyed surgical expense protection and about three million were insured under medical expense policies. He stated that insurance coverage had grown at a fantastic rate of speed as the greater proportion of those covered were insured during the past ten years. During 1952 alone, the rate of increase was 8% for hospital insurance, 21% for surgical coverage and 31% for medical coverage. Insurance company premiums have increased accordingly and have shown a sevenfold increase between 1942 and 1952. However, the increasing cost of medical care has practically removed the profit from such insurance. A study of 36 companies which issued group hospital contracts in 1952, indicated that these companies paid out in claims 92% of the \$17 million to \$18 million they received in premiums. Aside from paying out over 90% of premiums in claims, insurance companies must also pay a 2% tax on premiums and carry the expenses of administering these policies.

Mr. Paul Meehan, Secretary-treasurer, Co-operative Medical Services Federation of Ontario, described how co-operative health plans are now providing basic medical services for approximately 286,000 Canadians. These plans are almost entirely confined to rural areas and are designed to provide minimum medical care in those areas which would receive little medical care otherwise. These plans are low-cost and are community financed and supported. The co-operative health plans also have a fund for catastrophic illness which, for a small premium, provides coverage for serious illnesses of long duration.

Another type of municipally sponsored medical service was described by Dr. M. R. Elliott, Deputy Minister of Health, Province of Manitoba, who briefly outlined the municipal doctor programme in his province. Manitoba as well as some of the other western provinces, has enjoyed considerable success with municipal doctor schemes as a means of providing essential medical services in rural areas. These schemes consist of an agreement between a doctor and one or more municipality for the provision of essential medical care. These contracts have been controlled to some extent by the Provincial Health Department which has encouraged the integration of prevention and curative services, but the programme has been financed entirely by municipalities. The doctor is guaranteed a minimum salary by the municipality and agrees to provide basic medical services. Major surgery, complicated obstetrics or fractures are not included in the contract and are paid for separately. The doctor also secures separate fees for Workmen's Compensation Board cases and D.V.A. treatment or treatment of other special groups.

From the interest and discussion that took place at this first Medical Care Conference there was little doubt that such a conference was worthwhile and profitable to all who attended. Dr. G. H. Hatcher who was largely responsible for organizing this Conference deserves much credit for his efforts in planning such a worthwhile programme.

INDUSTRIAL MEDICINE

The combined meeting of the Section of Industrial Medicine of the Ontario Medical Association and the Industrial Medical Association of the Province of Quebec

will take place at the Ottawa Civic Hospital on September 23, 24 and 25, 1954.

On Thursday, September 23, the chairman of the morning session will be Dr. C. W. Kelly, Assistant Professor of Surgery, Queen's University, and papers will be read on industrial dermatitis, periodic health examinations and psychiatric aspects of industrial medicine. At the afternoon session to be chaired by the cine. At the afternoon session, to be chaired by the President of the Quebec Industrial Medical Association, there will be communications on resistant staphylococcal infections, medicolegal pitfalls, the diabetic employee, and external diseases of the eye.

On Friday, the morning session will be chaired by Dr. D. C. Graham, Medical Director of the Ontario Division of the Canadian Arthritis and Rheumatism Society, and of the Canadian Arthritis and Rheumatism Society, and appropriate topics such as foot problems and backache in industry, rheumatoid arthritis and spondylitis, and painful shoulder will be discussed. In the afternoon, with Dr. H. M. Harrison, Medical Director, George Weston, Ltd., in the chair, compensation in rheumatic disorders and psychological aspects of rehabilitation will be described. This day's sessions are provided by the Ontario Division, Canadian Arthritis and Rheumatism

On Saturday, Dr. W. F. Prendergast, Medical Director, Frigidaire Products of Canada will take the chair at sessions on urinary porphyrins in lead absorption and intoxication, special problems of the female worker, and early treatment of common injuries. A dinner and a luncheon with interesting speakers are promised, and a programme for the ladies has been arranged.

MISCELLANY

THE TENTH PHYSICIANS' FINE ART SALON

Messrs. Frank W. Horner of Montreal have again sponsored the Art Salon at our annual meeting. This is the tenth successive year in which these salons have been organized by Messrs. Horner, and to "successive" we must unhesitatingly add "successful." The Salon has undoubtedly been the means of fostering artistic work in our profession, and this year's exhibition was unusually interesting.

The following is the list of prize winners and awards

FINE ARTS

TRADITIONAL

1st "Shore Farms," E. R. Rafuse, M.D., St. James, Man.; 2nd "Coal Harbour," G. L. Burke, M.D., Van-

Awards: "Rosenberg's Farm," A. G. MacKinnon, M.D., Vernon, B.C.; "Still Life," John L. Parnell, M.D., Vancouver, B.C.; "Torre Molinos," W. D. S. Cross, M.D., London, Ont.; "Study in Silver," W. J. Hart, M.D., E. Kildonan, Man.; "Lone Butte," L'Eaubois, M.D., New Westminster, B.C.; "Autumn," Ella Evans, M.D., West Vancouver, B.C.; "Market Square—Hamilton," F. B. Bowman, M.D., Hamilton, Ont.; "Harmony Harbour," D. F. MacDonald, M.D., Yarmouth, N.S.; "Cariboo Winter," J. C. Haramia, M.D., Williams Lake, B.C.; "Late Afternoon," D. W. Burgess, M.D., Campbellford, Ont.

PORTRAIT

1st "The Old Fisherman," S. L. Williams, M.D., Vancouver, B.C.; 2nd "Chloe," W. J. Hart, M.D., E. Kildonan, Man.

Awards: "Portrait," E. V. Currie, M.D., Dorval Station, Que.; "Ruth," M. F. Newell, M.D., Edmonton, Alta.; "The Hunter," H. M. Connell, M.D., Scarborough Jet., Ont.

CONTEMPORARY

1st "Child at Play," H. Baker, M.D., Vancouver, B.C.; 2nd "The Card Game," M. S. Wilson, M.D., Toronto,

Awards: "Four Figures," Jack Parker, M.D., Toronto, Ont.; "Portrait de Mlle. X," Paul Lariviere, M.D., Montreal, Que.; "Terminus," J. A. Weir, M.D., Cooksville, Ont.; "Fishing Stage," G. H. Agnew, M.D., Toronto, Ont.

MONOCHROMES

1st "Ronald," W. P. Goldman, M.D., Vancouver, B.C.; 2nd "Passing Parade," Alex Richmond, M.D., Montreal, Que.; 3rd "Drifted Pines," F. T. Dennis, M.D., Port Arthur, Ont.

Awards: "Death Valley Dunes," G. B. Helem, M.D., Port Alberni, B.C.; "Silver Spires," J. D. Bricker, M.D., Toronto, Ont.; "Migraine," E. V. Spackman, M.D., Lethbridge, Alta.

COLORED TRANSPARENCIES

1st "Coy," W. R. Read, M.D., Drumheller, Alta.; 2nd "Spray'n'Rain," W. L. Percival, M.D., Windsor, Ont.; 3rd "Television," A. W. Gyorfi, M.D., Glace Bay,

Awards: "Aquabatics." J. E. Fox, M.D., Edmonton, Alta.; "Sabbath Calm," H. W. Schwartz, M.D., Halifax, N.S.; "Autumn Glory," J. C. Sibley, M.D., Hamilton, Ont.; "Eventide," L. R. Hirtle, M.D., Halifax, N.S.; "The Camp at Night," H. E. Meema, M.D., Toronto, Ont.

SPECIAL CORRESPONDENCE

The London Letter

(From our own correspondent)

Re-focus on General Practice

For the fourth time within four years, and the third time within a year, general practice has been the sub-ject of a full-blown report. This time it comes from a committee appointed in 1950 by the Central Health Services Council (an advisory body to the Minister of Health under the National Health Service Act of 1946) "to consider and make a report on whether the existing arrangements for engaging in general practice under the arrangements for engaging in general practice under the National Health Service are such as to enable general medical practitioners to provide the best possible standard of service." The committee's answer is a slightly qualified "yes." Starting off with the premise that "the general practitioner must hold the key position in the Health Service," the committee finds nothing fundamentally wrong with general practice as it exists over here today after five years of the National Health Service. Thus, even that most delicate, almost imponderable, but yet so important, aspect of general practice the doctoryet so important, aspect of general practice, the doctor-patient relationship, has not been disturbed by the advent of the Service. Indeed, "in some respects it was found to be better than before, and this was attributed to the absence of the money bar and to increased co-operation between doctors."

REMUNERATION

Considerations of space preclude anything like a detailed review of this interesting, if somewhat plebeian, report, but one or two aspects are worthy of note. The committee is of the opinion that the present method of remuneration by capitation fees is the most satisfactory, and is preferable to payment by salary, by sessional fees, or by fees per item of service. Payment by capitation fee allows a maximum of flexibility and independence for individual practitioners, keeps the need for control to a minimum, and enables practitioners to organize their practices as best suits them and local conditions. Further, "since it does not preclude the practitioner from doing other work outside the general medical services under the National Health Service, it has also the advantage that it means no specified limit is set to the general practitioner's remuneration."

The committee also considers that the present upper limit applied to doctors' lists—3,500 for a principal, plus 2,000 where an assistant is employed—"fairly reflects present needs and conditions." Of the suggestion that merit awards might be introduced for efficiency and experience in general practice, the committee has this to say: "Whatever may be the advantages of merit awards for consultants and specialists, in the field of general practice the suggestion is dismissed on purely practical grounds. . . . The process of assessment might do very serious harm to the good relationships which at present exist between general practitioners in the Service and, indeed, it might undermine the very basis of group practice."

HEALTH CENTRES AND GROUP PRACTICE

Perhaps the most interesting part of the report is that dealing with health centres. The pros and cons of the comprehensive health centre as envisaged in the National Health Service Act are judicially reviewed, and the conclusion is reached that the time for these has not come—if it ever will. Rather does the committee urge the setting up of group practices—of three to six doctors. These, it is contended, have all the major advantages of health centres and none of their drawbacks. At the same time, it appeals for experiments in different forms of association between groups of doctors and local health authorities, particularly in industrial areas and in new development areas.

MATERNITY AND HOSPITAL SERVICES

Perhaps one of the most interesting of the committee's recommendations is that more normal confinements should take place in the mother's home rather than in hospital, and it appeals for better provision of home helps and midwives so that this can be achieved. It also appeals for more facilities for general practitioners to look after their own patients when being confined in hospital or maternity home on social rather than medical grounds. It also reports that there is no evidence that since the inception of the National Health Service the provision of maternity services by general practitioners had decreased. What has become a traditional plea for hospital beds in which general practitioners can look after their own patients is supplemented in this report by a more unusual recommendation, and one that opens up interesting possibilities—retrograde in the eyes of many, progressive in the eves of others: "The Committee also favours the part-time employment of suitably qualified and experienced general practitioners in all hospital grades"—including that of consultant. There will be much rubbing of eyes on reading this recommendation, and it will not be long before the whole profession will be asking itself—are we going to revert to the old general-practitioner-consultants—often the salt of the earth in the old days? Life is certainly never uninteresting—even under a National Health Service. London, July 1954.

OBITUARIES

DR. WILLIAM CONNELL, 58, of Wingham, Ont., died on June 12 shortly after he had completed an operation at the Wingham General Hospital. Born in Lucknow, Ont., he graduated in medicine from the University of Toronto in 1919. Dr. Connell opened his practice in Lucknow and later moved to Wingham. He is survived by his widow, one son and two daughters.

DR. ALBERT DESGROSEILLERS, who practised medicine at Beauharnois, Que., for more than 50 years, died at Montreal on May 18. Born at St. Etienne, Que., in 1871, he obtained his B.A. from the Joliette Seminary in 1891. Four years later he graduated in medicine from Laval University and returned to St. Etienne to practise. In 1899 he moved to Beauharnois; he retired last year. Dr. Desgroseillers is survived by his widow, two daughters and two sons.

DR. JEAN CHARLES DOUCET died suddenly in Montreal on May 1 at the age of 51. Born at Coteau Station, Que., he graduated in medicine from the University of Montreal, Immediately after graduation Dr. Doucet joined the staff of Notre Dame Hospital, Montreal, where he remained until his death. He is survived by his widow, one daughter and three sons.

DR. PAUL EMILE LAFLAMME of Sudbury, Ont., was killed in a motor accident near Sturgeon Falls on June 5. Born in Hull, Que., in 1897, he received his B.A. degree at Bourget College in Rigaud. During World War I he enlisted in the Canadian Expeditionary Force and served overseas as a lieutenant. In 1924 he graduated in medicine from the University of Montreal and became a member of the staff of Pálmer Hospital in Massachusetts. He opened his practice in Masson, Que., in 1930 and five years later moved to Sudbury. Dr. Laflamme went to Vienna with the American Medical Association in 1936 and graduated from the University of Vienna. He also spent some time in surgery at the County Hospital in Swentes, Hungary. In 1944 he was recognized by the Royal College of Surgery of Canada, with a specialist certificate in general surgery, and became a member of the Colonial Medical Registration and of the International College of Surgeons. Dr. Laflamme was chief of staff of the 300-bed St. Joseph's Hospital in Sudbury for the past five years and was active in social and cultural affairs in the city. He is survived by his widow and one son.

DR. VICTOR EDWARD LATIMER, 88, died in Shaughnessy Hospital, Vancouver, on May 6 after a lengthy illness. A native of Ontario, he moved to Manitoba during the covered wagon days. While attending the Manitoba Medical College he interrupted his studies to serve with the 95th Battalion as a hospital sergeant during the 1885 rebellion. Later the same year he witnessed the trial of Louis Riel in Regina. After graduation in 1888, Dr. Latimer began his practice in Holland, Man. In World War I he was a captain with the R.C.A.M.C. and served overseas as medical officer in charge of the Witley Clinic. In 1926 he moved to Penticton and 13 years later to Vancouver. An eye, ear, nose and throat specialist, he retired in 1948. Dr. Latimer was the last surviving member of the Manitoba class of 1888. He is survived by his widow and one son. Two sons were lost on active service during World War I.

DR. HENRY KIRKWOOD MacDONALD, 81, died at Halifax, N.S. on May 23. Born in Lyons Brook, N.S., he graduated in medicine from McGill University in 1896. Dr. MacDonald was a long-time member of the medical faculty of Dalhousie University and was head of the surgery department from 1935 until he retired

in 1945. He served as president of the Medical Council of Canada in 1948, and as councillor of the Royal College of Surgeons; he was a past president of the Medical Society of Nova Scotia and a former member of the provincial medical board. Besides his widow, Dr. MacDonald is survived by two sons and two daughters.

DR. PHILIP P. NIMILOWICH who practised in Winnipeg from the time of his graduation from the Faculty of Medicine, University of Manitoba, in 1932, died on June 2 at the age of 50. Born in Poland, he came to Canada 49 years ago. He is survived by his mother, a sister and a brother.

JOHN RODERICK OULTON died on May 25 in the Western Division of the Montreal General Hospital after a long illness. Born in Lorneville, N.S., he obtained his B.A. degree from Mount Allison University and his medical degree from McGill University. In 1915 Dr. Oulton established his practice in St. Lambert where he remained until his death. He is survived by two sons.

DR. H. M. PONTBRIAND, 76, died on May 30 at the Hotel Dieu Hospital in Montreal. Born at Montreal, he moved to Sorel at an early age. He graduated in medicine from the University of Montreal in 1904 and during the next 41 years practised in Sorel. On his retirement nine years ago he returned to Montreal. Dr. Pontbriand was a governor of the College of Physicians of Quebec from 1914 to 1922 and recently he was presented with a certificate by the College, commemorating his 50 years in the profession of medicine. He is survived by his widow and four daughters.

DR. A. ROY ROUTLEDGE died in Victoria Hospital, London, Ont., on May 31. Born at Lambeth, Ont., 75 years ago, he graduated from Trinity College, University of Toronto. He first practised with his father at Lambeth and moved to London in 1919. Dr. Routledge was later appointed coroner and was investigating officer in many prominent police cases. He is survived by his widow and

DR. ORAL BENTLEY SHILLINGTON, 59, died at Sutton, Ont., on May 13. A graduate in medicine from Queen's University in 1926 he practised in York County, Ont., and was with the Department of Indian Affairs for many years. A veteran of World War I, Dr. Shillington had been in poor health for some time.

SIR JAMES CALVERT SPENCE. Our members will learn with regret of the death of Sir James Spence, the leading pædiatrician in Newcastle upon Tyne, England. It will be recalled that Sir James was the guest of the Association in Saskatoon in 1949 when he delivered the Blackader Lecture on Parents and Pædiatricians. His death at the age of 62 will be a great loss to child welfare in England.

DR. VALENTINE F. STOCK of Toronto died suddenly at the Toronto General Hospital on May 28 at the age of 65. Born in Tavistock, Ont., he taught school for a year before entering an honour biology and physics course at the University of Toronto, graduating in 1912. Three years later he completed his medical course and immediately joined the Royal Army Medical Corps, serv-ing as a battalion medical officer with the Northumberland Fusiliers. He was wounded and awarded the Military Cross for gallantry under fire in the battle of the Somme. On his return to Toronto, Dr. Stock set up in general practice but soon confined himself to the study of internal medicine. He was associated with the University of Toronto and the Toronto General Hospital and was special lecturer in medical economics for the University. As a mark of distinction he was made a Fellow of the

Royal College of Physicians in 1951 without having to pass an examination. Dr. Stock was in the R.C.A.M.C. Reserve and held the rank of lieutenant colonel. Active in sports in his university days, he maintained his interest in University of Toronto athletics and served on the athletic directorate. He is survived by his widow, two sons and one daughter.

DR. HERBERT WILLIAM WADGE, M.C. with bar, died on June 14 aged 81. Born in Ontario, he went to Manitoba in 1883 and received his education in Winnipeg schools, Wesley College and Manitoba Medical College from which he graduated in 1901.

After practising in Arcola, he returned to Winnipeg where he made his home continuously save for service overseas with the R.C.A.M.C., World War I. He was awarded the Military Cross in June 1916 and the bar in 1918. On his return in December 1918, he was officer commanding the medical section of Manitoba Military Hospital for nearly three years. During World War II he was president of the medical section of the recruiting board of M.D. 10. After being placed on the retirement list he served at Deer Lodge Hospital. He was president of the Winnipeg Medical Society.

He is survived by his widow and three sons.

DR. EARL DICKSON WINCHELL died suddenly on May 30 at his residence at the Brandon Mental Hospital. Born in Glenboro 63 years ago, his study in medicine at Manitoba College was interrupted by World War I. He served overseas from 1915 to 1917 with the R.A.M.C., then graduated in 1919. For 20 years he was in general men graduated in 1919. For 20 years he was in general practice then served for 10 years on the staff of the Mental Hospital at Weyburn, Sask. In 1949 he joined the staff of the Brandon Mental Hospital. He was certified in psychiatry by the Royal College of Physicians and Surgeons of Canada in 1947. Surviving are his widow, a son, and a daughter.

ABSTRACTS from current literature

MEDICINE

Penicillin Reactions: Their Nature, Growing Importance, Recognition, Management and

Kiern, R. A. and Wimberley, N. A. Jr.: Am. J. M. Sc., 226: 357, 1953.

An important feature of the clinical history of penicillin was the early belief in its freedom from undesirable re-actions. These present authors state that it has now be-come the chief among medications both in the frequency and in the diversity and the severity of the sensitivities which it produces. It has replaced foreign sera as the cause of fatal anaphylactic shock and is responsible for growing numbers of cases of exfoliative dermatitis and periarteritis nodosa of which the patients may eventually

Tracing the history of medication allergic reactions it is recalled that prior to the discovery of the sulphonamide and penicillin the chief offenders were aspirin, quinine and ipecac and the reactions were usually mild. Foreign protein reactions and neutropenia from antipyrin were the others occurring and these were quite infrequent. The sulphonamides proved to be very potent sensitizers and a wide variety of reactions followed their widespread use. Penicillin was at first thought to be without danger. In 1943 Keefer reported that 14% of 500 cases treated with it developed some degree of reaction. The antihistaminics proved of value in controlling the less severe manifestations. In 1945 Cormia reported a reaction incidence of 60.5% in prolonged administration, some of

the cases being severe.

Depot penicillin was found to produce more reactions than had come to be expected from plain penicillin, with procaine penicillin in an intermediate position. It is felt that the greater occurrence is not simply the result of an added reaction to the holding substance but rather to a principle recognized by allergists whereby the simultaneous exhibition of more than one antigenic substance tends to increase the total reaction beyond the summation. With the re-use of each new preparation, subsequent courses show greater reaction incidence, a phenomenon which has been observed with each drug introduced.

The first penicillin reaction death was reported in 1946, the second in 1949. The first occurred in a post-gastrectomy patient given five days of the drug when a rash, vomiting and fever developed with death in three days. The second was in a known allergic patient who had had three previous courses of penicillin injections with hives, joint pains and increased asthma therefrom. She died in anaphylactic shock three hours following the first dose of a fourth course. These are the only deaths first dose of a fourth course. These are the only deaths reported in the first nine years of penicillin's history. In the subsequent year and a half there have been 15 reported deaths. Many of these have occurred in known allergic subjects but not all. Commonly death followed the injection after an interval of 10 to 15 minutes. One physician suspecting that the procaine in the procaine penicillin combination might have been responsible for a previous severe reaction gave an intramuscular injection of Penicillin G. The patient was dead in 15 minutes.

In discussing the situation the authors point out that it is very unusual for alarming reactions to occur in pa-tients who have not had penicillin before. The wide-spread use of the drug for trivial infection is to be decried because of its sensitizing possibilities; about 15% of the population are said to be of sufficiently major allergic types to present as possible candidates for severe re-actions with re-use of the drug. The drug when absorbed by the bowel is least likely to cause reactions; its use in lozenges is followed by a high incidence of local response and, incidentally, is not of much therapeutic usefulness. The more severe the allergic reaction the longer the sensitivity tends to last, mild cases often clearing in one

to two years although they may last a lifetime.

Prevention of reactions entails careful enquiry as to previous penicillin administration, particularly as to re-actions. Allergic subjects require especial caution. Inter-vals of 10 days or more between doses give time for

sensitivity to develop.

A scratch test is described whereby, through a cut in the skin not deep enough to draw blood, a drop of the preparation to be used is brought into contact with the exposed tissue. If a wheal or erythema develops in 20 minutes a high degree of sensitivity exists and the patient should not be given penicillin. It is possible for this skin test to be negative, testing as it does the fixed antibodies; there may then be circulating antibodies adequate to set up a severe reaction to an intracutaneous dose given with an O.T. syringe. If this reaction is positive within 20 minutes then there is danger in giving the drug—if no reaction develops for 24 to 28 hours the risk is somewhat less. It is pointed out that where suspicion is high, the cutaneous and not the intracutaneous test should be used for fear of constitutional reaction to the latter. Concurrent antihistaminic administration with penicillin will reduce the rashes and urticaria but is useless in the face of anaphylactic sensitivity. ACTH or cortisone is said to protect highly sensitive patients who must be given the drug.

In treating the severe reaction when it occurs it is essential to have in readiness adrenalin, Benadryl or essential to have in readmess adrenain, benadryl of Pyribenzamine for parenteral use. Blocking off the site, as in an arm with a proximal tourniquet is helpful, incision and aspiration of the arm as in snake bite is suggested. A clear airway and oxygen may be needed. Intravenous adrenalin and antihistaminics given immediately are advised. ACTH by vein or cortisone by mouth may be useful. The fatal reactions come on within 15 minutes of penicillin administration, later onset means less severe

and less dangerous reaction. In chronic reactions anti-histaminics, a diet of cooked foods only, avoiding nuts, seafood and chocolate should be given and cortisone administration considered. G. A. COPPING

Thrombosis of the Deep Leg Veins Due to Prolonged Sitting.

HOMANS, J.: NEW ENGLAND J. MED., 250: 148,

Sitting for prolonged periods will cause venous stasis in the lower limbs and may result in the rapid develop-ment of a quiet type of thrombosis in the deep veins of the calf. This may lead to pulmonary embolism.

Five such cases are reported, pulmonary embolism occurring in two. Long periods of sitting in automobile and in aeroplane was the etiological factor in four patients and the fifth followed sitting in a theatre. This complication following prolonged sitting is more liable to occur in older people and physicians should be alert to recognize the significance of lameness following aeroplane flights, automobile trips and other occasions of a prolonged seated position. Such cases should be promptly treated with anticoagulants, bed rest, and elevation and elastic bandaging of the legs. If long periods of sitting are unavoidable people should be educated to the advisability of frequent leg movement.

NORMAN S. SKINNER

SURGERY

Surgical Treatment of Mitral Stenosis.

Andrus, E. C., Blalock, A. and Milnor, W. R.: Arch. Surg., 67: 790, 1953.

Surgical relief of mitral obstruction is now established practice. Operative results are better when the pulmonary practice. Operative results are better when the pulmonary arterial pressure is low and poor when pulmonary vascular resistance has become fixed at a high level. Indications for operations now are: symptoms and signs of pulmonary engorgement, including dyspnœa of a degree limiting the patient's activity and characteristically associated with cough, paroxysmal nocturnal dyspnœa, attacks of pulmonary cedema after exertion or at rest, and hæmontysis. Controlled to the control of the controlled to Contraindications are bacterial endocarditis, right heart failure, active rheumatic disease, doubtful with mitral insufficiency and aortic valve disease.

with mitral insufficiency and aortic valve disease.

Studies of 75 patients showed excellent, good and fair results in 24, 17 and 13, failure in two and deaths numbered nine (four embolism, four cardiac failure, one pericarditis). In three patients hemiplegia was present after operation and cleared in two. Five surviving patients suffered reactivation of rheumatic heart disease following operation. Another five developed respiratory infection and a progressive decline in work tolerance after operation. Careful attention to prophylaxis with sulphadiazine or penicillin at all ages is recommended. In a large series the overall mortality rate is 6% plus about 5% late postoperative deaths. In 75% of cases the operation is worthwhile.

Burns Plewes

Management of Remaining Common Duct Stones by Various Solvents and Biliary Flush Regimen.

BEST, R. R., RASMUSSEN, J. A. AND WILSON, C. E.: ARCH. SURG., 67: 839, 1953.

After emphasizing the incidence of cholelithiasis in the general population (10 to 30% of adults), high incidence of stones in the common and hepatic ducts (24% of those with gall stones), and the frequency of the "remaining" common duct stone after choledochostomy (20%), an investigation of 113 solutions for dissoluting gall stones investigation of 113 solutions for dissolving gall stones is reported. The solutions used could be classified under eight headings: fat solvents, surface tension lowerers (detergent, bile salts), calcium binding, fatty acids, hydrotrophic agents, enzymes, dispersing agents and miscellaneous (acids, boiling water). Room temperature chloroform and ether were equally effective. Warm chloroform was the best solvent for gall stones of the 113, and no liver injury was demonstrated from its use as instillations via a T-tube. A three-day flush regimen is recommended, for it was successful in 80% of the cases in which choledochograms showed a remaining common duct stone. Decholin, belladonna, magnesium citrate, cream and nitroglycerine are prescribed. On each of two days, 5 c.c. of chloroform at 60° C. are instilled into a double lumen T-tube and on the third day ethyl ether is used. A very precise programme is described.

Every explored common duct should be drained by a T-tube and no T-tube should be removed until a normal choledochogram is obtained. If a remaining stone is present, flush regimen and the use of T-tube instillations usually dislodge it. The stones removed at operation should be saved for testing with solvents till the T-tube is out.

BURNS PLEWES

The Etiology of Pilonidal Sinuses.

Hueston, J. T.: Brit. J. Surg., 41: 307, 1953.

Pilonidal sinus is a cavity in the subcutaneous tissues lined by granulation tissue, containing hair, and communicates with the surface by a track lined by squamous epithelium. It may occur in other sites than the postanal region. It occurs in young adults who have stiffdark hairs with greasy skin whose occupation subjects them to repeated minor trauma to the region. It was known during the war as "jeep seat." A common site is in the interdigital cleft of the hand of barbers.

This lesion is acquired, not embryological. It is observed that the hairs do not grow from the walls of the sinuses. Sinuses often appear in previous scars. The persistence of the same local condition: a local depression, growth of stiff hairs and resulting irritation cause a recurrence of more sinuses. Developmental abnormalities at the lower end of the spinal column are much rarer.

Burns Plewes

OBSTERICS AND GYNÆCOLOGY

Anæsthesia in Hospital Breech Delivery.

Law, R. G. and Ransom, S. G.: Brit. M. J., 1: 562, 1954.

Assisted breech delivery and breech extraction are two very distinct obstetric operations requiring different anæsthetic techniques. The special considerations involved in anæsthesia for such deliveries have been reviewed.

In assisted breech delivery it is recommended that a perineotomy be performed under local infiltration anæsthesia, inhalation anæsthesia being limited to the delivery of the arms and head. In breech extraction a high degree of uterine relaxation is necessary. For this reason a deep ether anæsthesia is the only one which may justifiably be employed. Spinal or extradural anæsthetics are not the most suitable for assisted breech deliveries and are absolutely contraindicated in breech extraction.

Close co-operation between obstetrician and anæsthetist is essential if the best results are to be obtained in this branch of obstetrics.

Ross MITCHELL

Extrapulmonary Tuberculosis and Pregnancy.

Schaefer, G., Douglas, R. G. and Dreishspoon, I. H.: Am. J. Obst. and Gynec., 67: 605, 1954.

Extrapulmonary tuberculosis is not unfavourably affected by pregnancy. The osseous and renal systems were most frequently involved in this series of cases.

Vaginal delivery is a safe method of delivery for patients' with extrapulmonary tuberculosis. Cæsarean section is not indicated except for obstetrical causes. The infants born of mothers with extrapulmonary tuberculosis were normal and of average weight.

The antituberculosis drugs are not contraindicated in pregnancy associated with extrapulmonary tuberculosis. Therapeutic abortion does not appear to be necessary in patients with extrapulmonary tuberculosis.

Ross MITCHELL

Management of the Fetal Arms in Breech Extraction.

SAVAGE, J. E.: OBST. AND GYNEC., 3: 55, 1954.

The routine use of the Piper forceps for delivery of the head in all breech deliveries is advocated.

The use of a towel sling is presented as a simple, harmless and efficient method of management of the fetal arms in breech extraction to facilitate the application of the Piper forceps to the aftercoming head.

Ross MITCHELL

Kyphoscoliosis and Pregnancy.

Webb, C. F. and Harder, J. A.: Obst. and Gynec., 2: 654, 1953.

A case of pregnancy in a young female with severe kyphoscoliosis and decreased respiratory reserve is presented. The pregnancy terminated in stillbirth at eight months when the patient developed a pneumonia with effusion. Congestive heart failure, gastro-intestinal bleeding and prerenal azotemia were secondary complications.

Ross MITCHELL

THERAPEUTICS

Use of Betaine-Lipotropic Combinations in Clinical Practice.

Morrison, L. M.: Geriatrics, 8: 649, 1953.

The synergistic action of betaine combined with choline, liver extract, and vitamin B_{12} was studied for one year in a series of patients, who received per day an average of 9 gm. of betaine, 660 mgm. of choline, 660 mgm. of liver extract and 36 micrograms of vitamin B_{12}

Group A consisted of 40 patients with proved coronary atherosclerosis, most of whom had experienced coronary thrombosis with myocardial infarction within the preceding 12 months, demonstrable by electrocardiogram, history, and physical findings. In addition to the daily administration of the lipotropic combination, each patient adhered to a 25-gm. low-fat, low-cholesterol diet per day, and received whatever therapeutic supplement was indicated, such as barbiturates for nervousness and nitroglycerin for anginal pains. A control group of 40 alternate patients suffering from recent coronary thrombosis with myocardial infarction were given only those therapeutic supplements which seemed indicated for symptomatic relief, but without the lipotropic combination. Ages and sex were comparable; ages ranged from 38 to 80 years. There were 26 males and 14 females in the treated group and 30 males and 10 females in the control group.

The betaine-lipotrope combination was well tolerated in each case, and there were no adverse or toxic reactions. After 12 months of treatment, there were no deaths in the series of 40 treated patients, while there were 10 deaths in the control series. The treated patients showed a fall in the serum cholesterol from the average pretreatment level of 292 mgm. per 100 c.c. of blood serum to an average of 257 mgm. after one year of treatment. In the control group, the average of 302 mgm. remained at approximately the same level, with an average figure of 316 mgm. after one year of observation.

In the treated series, the serum phospholipid level rose from an average of 269 mgm. prior to treatment to 344 mgm. after one year of treatment, considered to be the average normal level. In the control series, the initial average serum phospholipid level was 275 mgm. at the beginning, and 270 mgm. at the end of the year. All 40 patients while on the betaine combination and

All 40 patients while on the betaine combination and a low-fat diet showed striking clinical improvement. There was a significant reduction in the frequency, incidence, duration and intensity of anginal pain on exertion, or following meals, or excitement; a reduction or disappearance in their susceptibility to dyspnæa on exertion, or after meals, in most patients. There was an increased capacity for physical and mental work, a sense of well-being, and increased appetite.

B. L. Frank

PUBLIC HEALTH

Epidemiological Studies on Influenza in Familial and General Population Groups.

Рнп. Р. R. N. et al.: Ам. J. Pub. Health, 44: 34, 1954.

Two purposes were paramount in this study, (1) to obtain information on the public health aspects and clinical characteristics of the disease relating to the general population, and (2) to rate the effectiveness of recently developed "water-in-oil" adjuvant vaccines.

The research initiated in 1951, in Norfolk, Va., was expanded in 1952 to include families in Arlington, Va.

The research initiated in 1951, in Norfolk, Va., was expanded in 1952 to include families in Arlington, Va. A total of 4,362 persons were inoculated and this study is a report of acute respiratory illnesses and diagnosed influenza experienced by them. After vaccination, biweekly contact with each family was maintained and when an acute respiratory infection or symptoms suggesting 'flu was reported a physician immediately obtained throat washings and swabs from the infected individual and all available members of the family.

individual and all available members of the family. The four vaccines used each contained one strain of killed virus, i.e., A/PR8, A/FW/1/50, (Cuppett), B/Lee, and B/Virginia/1/50 (1210). One 0.25 ml. dose containing 100CCA units, I.M. was given. In Norfolk, in 1951-52, a significantly lower acute febrile respiratory illness attack rate during an influenza B epidemic was observed among those vaccinated with either of the B types than those receiving the Type A vaccines. Likewise, fewer of the B recipients harboured the 'flu virus than those in the group receiving the A vaccines. During an A outbreak the reverse was noted and it was found that some recipients of the A/FW/1/50 vaccine were still immune 14 months after vaccination. However, there appears to be no cross immunity between the A strains.

Evidence is noted of an antigen building period of approximately one month for the A/FW/1/50 vaccine. Significant immunity in a group of persons (848) vaccinated one month prior to an epidemic of influenza A is reported, whereas another group (1,150) vaccinated just at the onset of an A outbreak had no protection.

ISABEL M. LAUDER

INDUSTRIAL MEDICINE

Age and Work . . . a Study of 489 Men in Heavy Industry.

RICHARDSON, I. M.: BRIT. J. INDUST. MED., 10: 269, 1953.

In this article the author discusses the problem of retaining the older workers in industry. Its solution necessitates the definition of suitable work for them in terms of skill, fitness and motivation. In Britain today economic stability rests mainly on the heaviest industries—coal, iron and steel; knowledge therefore of the relation between age and heavy work is an urgent necessity.

After referring to the meagre literature available on this subject, the author reports in detail a study designed to furnish answers to the following questions: (1) Are older men doing less heavy work than younger men? (2) At what age do men move to less heavy work? (3) With what factors are these moves associated? (4) What is the state of health of older men in heavy industry?

Four hundred and eighty-nine men age 50 years and over were interviewed in two foundries and a coalmine. The information sought covered all aspects of the subject's health and of his occupation, both past and present. The data thus collected were supplemented by those obtained during a post-interview visit to each man's place of work. Analysis and interpretation of the findings led to the following: (1) The proportion of men on heavy work declined from the 50's onward. The change to lighter work was frequently associated with a reduction in skill. (2) The incidence of change to less heavy work appeared to be low in the 20's and 30's, began to rise in the 40's and then rose steeply. (3) Although illness, injury or disability resulting therefrom was associated with 62% of the changes to lighter work, it is suggested that these and other events often acted as a "trigger factor," the desire to change being preceded by a period of increasing strain. Reference is made to the influence of both external suggestion and conventional belief, also to the role played by speed of work in determining such decisions. (4) There is some evidence that less fit men try to continue at work until age 65, their retirement having a selective effect upon the health distribution of those who carry on beyond that age. As age increases, even those in good health are to be found on less heavy work.

Visual Acuity-Results of a Survey of 10,000 Persons.

WILSON, R. H. AND MCCORMICK, W. E.: INDUST. MED., 23: 64, 1954.

Two years ago the B. F. Goodrich Company, Akron, Ohio, conducted a visual survey in one of its plants in order to determine the nature and extent of the visual problems existing among its employees. Approximately 10,000 persons took the test carried out by means of a "Sight Screener." The data collected were supplemented by information received on cards which were sent to the employees for completion in connection with their response to recommended eye correction. The authors present a detailed analysis of this information on the basis of the three visual classifications: satisfactory, deficient and unsatisfactory, with respect to age, sex and

ricient and unsatisfactory, with respect to age, sex and employment status. A series of tables is included.

This survey established the following: (1) Visual screening tests properly conducted are a worthwhile project for any industrial management to undertake. They should, however, be considered as a means of survey, not as a diagnostic eye test. Final determination of actual visual quality should be made by an ophthal-mologist. (2) Most people will correct visual defects when such are pointed out to them. (3) Older individuals have a greater percentage of "unsatisfactory" vision than younger. The older the person, the poorer the vision. (4) Visual quality is probably not too great a factor in the causing of accidents. Younger men under 40 have more accidents of all types, major and minor. It is suggested that modern safety engineers take this into account and carefully supervise and train young employees. The survey indicates also that there is probably little or no connection between unsatisfactory vision and accident proneness. The older more experienced employee is the safest. (5) Females have more uncorrectible defects ("deficient" vision) than males. (6) Uncorrectible defects increase with age; depth perception is the most prevalent and one-eye suppression the least. (7) In the group under investigation, 90% of persons over 50 years of age, regardless of their type of work, need corrective glasses. Of persons in the age groups between 21 and 65, 54% require corrective lenses.

FORTHCOMING MEETINGS

CANADA

International Conference on Group Psychotherapy, Toronto, Ont. (Dr. Wilfred C. Hulse, Chairman. International Committee on Group Psychotherapy, 110 West 96th Street, New York 25, N.Y.) August 12-19, 1954.

International Institute on Child Psychiatry, University of Toronto, Toronto, Ont. (Miss Helen Speyer, Executive Officer, International Association for Child Psychiatry, 1790 Broadway, New York 19, N.Y) August 13-14, 1954.

International Congress on Mental Health, University of Toronto, Toronto, Ont. (The Executive Officer, Fifth International Congress on Mental Health, 111 St. George Street, Toronto, Ont.) August 14-21, 1954.

International Congress of Ophthalmology, Montreal, Que. (Dr. G. Stuart Ramsey, Associate Secretary, Physical Sciences Centre, McGill University, Montreal 2, Que.) September 9-11, 1954.

Industrial Medical Association of the Province of Quebec, and the Industrial Section of the Ontario Medical Association, Joint Meeting, Ottawa, Ont. (Dr. W. F. Prendergast, Secretary of the Section of Industrial Medicine, 22 Commercial Road, Leaside, Toronto 17, Ont.) September 23-25, 1954.

UNITED STATES

International College of Surgeons, Convention of the Canadian and American Sections, Chicago, Ill. (Dr. E. N. C. McAmmond, Secretary, Canadian Section, Suite 2, 1701 Broadway West, Vancouver 9, B.C.) September 7-10, 1954.

International Congress of Ophthalmology, New York, N.Y. (Dr. William L. Benedict, Secretary-General, 100 First Avenue Building, Rochester, Minn.) September 12-17, 1954.

World Congress of Cardiology, Washington, D.C. (Dr. L. W. Gorham, Secretary-General, Second World Congress of Cardiology, 44 East 23rd Street, New York 10, N.Y.) September 12-17, 1954.

International Anæsthesia Research Society, Annual Congress, Los Angeles, Calif. (Dr. T. H. Seldon, Chairman, 102-110 Second Avenue, S.W., Rochester, Minn.) October 4-7, 1954.

New England Postgraduate Assembly, Boston, Mass. (Executive Secretary, R. St.B. Boyd, 22 Fenway, Boston 15, Mass.). October 25-27, 1954.

AMERICAN INSTITUTE OF DENTAL MEDICINE, 11th Annual Meeting, Palm Springs, Calif. (Executive Secretary, Miss Marion G. Lewis, 2240 Channing Way, Berkeley 4, Calif.). October 31-November 4, 1954.

AMERICAN DERMATOLOGICAL ASSOCIATION, Belleair, Florida. April 17-21, 1955.

OTHER COUNTRIES

THIRD INTERNATIONAL POLIOMYELITIS CONFERENCE, Rome, Italy. (Secretariat: 6 via Lucullo, Rome, Italy. Cable address: Inpolio, Rome.) September 6-10, 1954.

INTERNATIONAL CONGRESS OF INTERNAL MEDICINE, Stockholm, Sweden. (Secretariat of the Third Inter-

national Congress of International Medicine, Karolinska sjukhuset, Stockholm 60, Sweden) September 15-18, 1954.

Conference of the International Union Against Tuberculosis, Madrid, Spain. (Prof. Alix y Alix, Escuela di Tisiologia, Ciudad Universitaria, Madrid, Spain) September 26-October 2, 1954.

THIRD INTERNATIONAL CONGRESS ON DISEASES OF THE CHEST, Barcelona, Spain. (Secretary General: Prof. Anthony Caralps, Corcega 393, Barcelona, Spain.) October 4-8, 1954.

Pan-Pacific Surgical Association, Congress, Honolulu, Hawaii. (Dr. F. J. Pinkerton, Director General, Pan-Pacific Surgical Association, Young Building, Honolulu, Hawaii) October 7-8, 1954.

Japan Medical Congress, Kyoto, Japan. (Dr. M. Goto, Secretary General, University Hospital, Medical Faculty of Kyoto University, Kyoto, Japan) April 1-5, 1955.

International Diabetes Federation, Cambridge, England. (Secretary, P. Duys, 33, Prinsegracht, The Hague.) July 4-8, 1955.

Concres de la Lithiase Urinaire, Evian, (Hte-Savoie), France. (Séc. Prof. Agr. Cl. Laroche, 16, rue Christophe-Colomb, Paris (8e), France) 2-4 septembre, 1955.

NEWS ITEMS

BRITISH COLUMBIA

The B.C. government is to call for tenders this month for the building of a Child Guidance Centre and mental clinic in Burnaby. It will operate on the basis of day attendance, the patients being given treatment during the day, and returning home at night. This will avoid the cost of hospital beds. This very modern move on the part of the government is hailed by those who are interested in mental health work. The clinic now situated in Vancouver will move to the new centre on the completion of the latter.

The question of establishing a physio-therapy school at the University of British Columbia is under study at present by a very representative Committee under the chairmanship of Dr. L. E. Ranta, assistant director of medicine at the Vancouver General Hospital. The B.C. Division of the Canadian Medical Association, the Department of Veterans' Affairs, the Chartered Physiotherapy Association, the Western Society of Rehabilitation, and the Canadian Arthritis and Rheumatic Society, are all represented. There are at present only two Canadian training schools for physiotherapists, in Montreal and Toronto, and it is felt that such a school is badly needed in the western part of Canada.

Mr. E. D. McRae, recently appointed executive director of the Alcoholism Foundation of B.C. will leave shortly to attend a six week course at the Yale Summer School of Alcohol Studies. The Alcoholism Foundation is subsidized by the government of British Columbia and will this fall establish a clinic for the treatment and rehabilitation of alcoholics.

The B.C. Tuberculosis Society has recently presented the Provincial Health Department with a mobile x-ray survey unit, costing \$25,000, for use in the Greater Vancouver area. This equipment was bought with funds realized by the sale of Christmas seals. The TB surgical building in Vancouver was also paid for out of these funds, and given to the Provincial Health Department, some three or four years ago, at a cost of several million dollars.

Mr. R. B. Buckerfield of Vancouver has been named president of the Canadian Cancer Society. Mr. Buckerfield's work in connection with the B.C. Cancer Institute for many years has been outstanding.

The Federation of Medical Women of Canada, in its annual session, held at Vancouver on June 8, elected Dr. Reba Willits as president-elect. Dr. Willits is well known in Vancouver as associate director of school health services, under the Metropolitan Health Committee. She is very active in organized medicine, and has been vice-president of the B.C. Division of the Federation.

The Health Centre for Children in Vancouver has received a gift of \$10,000 from the Centre's Women's Auxiliary. The money will equip one floor of the centre.

The B.C. Tuberculosis Society is asking the B.C. government to provide free hospital care for all B.C. tuberculosis patients. This would undoubtedly be a very beneficial step, as the majority of TB hospital cases have to stay in hospital a long time, and the burden of payment for their care comes as a great hardship to their families over long periods.

The Canadian Cancer Society held its annual convention in the Hotel Vancouver in June, and announced that 32% of its total expenditures was allotted to research last year: a sum of well over \$400,000. This amount is to be increased in future. At this meeting, too, Dr. G. F. Strong of Vancouver, who was a founder and later president of the B.C. Division of the Society, was presented with a life membership in the Society.

J. H. MACDERMOT

MANITOBA

Forty doctors met at a conference in Brandon Sanatorium on May 14 and 15. About half were on the staffs of sanatoria, the others were doctors specially interested in the medical and surgical field of chest diseases. Among the group were Dr. Herbert Meltzer of Edmonton and Drs. Jenner, Amoruso, Lowe and Porth from Saskatchewan, Speakers included Dr. A. H. Povah, Dr. Amoruso, Miss Delamater, Dr. Paine, Dr. Lowe and Dr. J. D. Adamson. In thanking the hosts, Dr. Murray Campbell could hardly state which deserved more praise, the professional discussions or the hospitality. A committee was appointed to submit recommendations regarding the formation of a medical society on a regional basis to study diseases of the chest in general.

Dr. Lennox Gordon Bell, Dean of the Faculty of Medicine, University of Manitoba, has been elected a Fellow of the Royal College of Physicians of London.

According to Dr. R. G. Cadham, scurvy has not entirely ceased to exist. Nine cases have been reported from the Children's Hospital and the Winnipeg General Hospital.

Dr. Morley Cohen of Winipeg has been awarded a scholarship from the Canadian Life Insurance Officers' Association for research in heart disease.

The following appointments to the honorary attending staff of the Winnipeg General Hospital have been announced: Dr. C. W. Burns, honorary consultant medical staff; Dr. M. R. MacCharles, surgeon-in-chief; Dr. Colin C. Ferguson, associate surgeon, Dr. R. J. Walton, radiation therapist and head of the new department of radiation therapy; Dr. H. A. J. Lister, assistant otorhino-laryngologist; Dr. A. Lindsay, assistant ophthalmologist; Dr. J. H. Lindsay, assistant physician in neuro-psychiatry; Dr. J. E. Burch, assistant physician in neuro-psychiatry; Dr. Leon Rubin, assistant obstetriciangynæcologist.

A hospital costing \$70,000 was formally opened on June 17 by Hon. F. C. Bell, provincial minister of health, at Ste. Anne. In addition to the five rooms each containing two beds, there are a nursery, laboratory and operating room. Dr. F. P. Doyle is the practitioner at Ste. Anne and the hospital staff consists of four nurses, two nursing aides, two cooks and two general staff members. Once a week a qualified laboratory technician visits the hospital.

Ross MITCHELL

NEW BRUNSWICK

Hon. Dr. J. F. McInerney, Minister of Health for New Brunswick, was the chief speaker at the official opening of the New Provincial Hospital for Mental Diseases at Campbellton. The Minister reviewed the history of the care of mentally ill persons in this province since 1848 when the first institution was opened near Saint John. The present building at Campbellton represents only one-fifth of the eventual establishment. When completed it will provide space for 1,200 patients. Hon. Milton F. Gregg represented the federal cabinet and Hon. Paul Martin. Hon. Hugh John Fleming, Premier of New Brunswick, officially opened the new hospital. Dr. R. C. Eaton is the medical superintendent.

Dr. Neil W. Swinton, Surgeon of the Lahey Clinic, Boston, spoke during May at Woodstock, St. Stephen and Saint John on "Common Proctologic Problems" with short notes on the present status in treatment of varicose veins, leg ulcers, pilonidal sinus and coccydynia. This tour was sponsored by the New Brunswick Medical Society.

Dr. Martin Hoffman, a native son of New Brunswick, was a welcome guest speaker at the National Convention of Laboratory Technologists of Canada at Saint John in June; and during his visit he addressed a public meeting of the Diabetic Association at which Dr. Robert Washburn was chairman.

Dr. Melvin I. Acker, who has practised in Saint George, N.B. for the past six years, is leaving soon to do postgraduate study at the Royal Victoria Hospital, Montreal.

The 54th annual meeting of the Canadian Tuberculosis Association was held in Saint John, N.B. in June and the delegates as usual enjoyed New Brunswick. The record in full is not our job. New Brunswick was glad to welcome new friends but it was our delight that our old friends Dr. G. J. Wherrett and Dr. D. A. Carmichael of Ottawa and Dr. Gordon Kincade of Vancouver re-

visited the scenes of their former activities. Dr. J. A. Vidal, retiring president, congratulated New Brunswick on being the first province to create a Ministry of Health. The first Minister was the late Hon. Dr. W. F. Roberts.

Among others receiving life membership in the As-Among others receiving life membership in the Association was Dr. Perry MacGregor Knox, superintendent of the Moncton Tuberculosis Hospital. New Brunswick physicians who took part in the Medical Sessions included: Dr. R. J. Collins of the Saint John Tuberculosis Hospital; Dr. E. A. Petrie of St. Joseph's Hospital, Saint John; Dr. J. A. Finley and Dr. W. D. Miller of the Surgical Staff of the Saint John Tuberculosis Hospital; Dr. Ceorge E. Skinner, and Dr. G. E. Cauvin of St. George F. Skinner; and Dr. G. E. Gauvin of St.

Dr. G. E. Maddison of Rothesay was elected president of the Association for the ensuing year.

A. S. KIRKLAND

ONTARIO

Dr. Hoyle Campbell, Toronto, who is the C.M.A. representative to the National Advisory Committee on Rehabilitation and consultant on Rehabilitation to the Minister of Health of Ontario addressed the Essex County Medical Society on Rehabilitation. Dr. Campbell felt that governments should provide funds and recommendations but the actual activities should take place in numerous decentralized areas; each of these areas should be a self-sufficient unit. While the universities must give leadership in research they should not control all the rehabilitation centres. The family doctor and the local medical society should exert local leadership. There are many lay groups, each interested in certain diseases and disabilities. They are all willing to assist but if they act alone or without direction their activities may result in the overlapping of some services and some needy phase of the overall problem may be neglected.

Windsor has one hospital devoted to the convalescent. This hospital has most of the facilities necessary for re-habilitation. In addition the Red Cross building is ideally suited for carrying out physiotherapy and occupational therapy for out-patients.

The Ontario Cancer Treatment and Research Foundation has announced 21 grants for clinical cancer research totalling \$97,000. Included are six new projects. At the University of Toronto Dr. T. P. Morley will study the effect of physical, chemical and biological agents on the growth of brain tumours in culture. Dr. R. A. Gordon will study methods of control of intractable pain in terminal cancer cases. Dr. J. G. Watt will study the influence of cancer on serum iron levels, the iron content of the liver and the rate of utilization of intravenously administered radioactive iron. Professor L. F. venously administered radioactive iron. Professor L. F. Belanger of the University of Ottawa will direct research using radioactive isotopes.

The Alcoholism Research Foundation of Ontario has issued its third annual report. During 1953 a total of 800 persons availed themselves of one or more of the Foundation's services. This represents an increase of 111 over 1952; it is made up of 576 new patients and 224 patients who had received treatment previously.

Of the 576 new patients, 82 were women and 494 were men. Of the total, 141 were referred by physicians, 110 by Alcoholics Anonymous, 88 by family or friends, 34 by other patients and the remainder by social agencies, employers, clergy and other sources. Inpatient treatment averaged about 10 days per patient; but after discharge an important phase of treatment was carried out in the out-patient clinic visits.

Mr. R. J. Gibbins, research associate with the Foundation carried out a 14-month survey in an Ontario county, where he found 698 alcoholics. More than 60% were skilled or semi-skilled workers, white collar workers, professional people, or executives. Only 6.3% could be classed as transient or casual labourers.

A new 1,300 patient mental hospital is to be constructed about five miles north of North Bay. The site was chosen because the area is served by three railroads, five highways and an airport.

Dr. Harold Cranfield spoke on Multiple Sclerosis at the second annual conference of the Canadian Associa-tion of Physical Medicine and Rehabilitation. With the assistance of Dr. W. Boothroyd, a psychiatrist, he studied the results of physiotherapy treatment on 52 patients at Sunnybrook. Half the patients were improved physically and two-thirds were improved psychologically. He believes that in these cases total rest is harmful and that progress, if any, can be achieved by controlled exercise and physiotherapy.

The University of Toronto, Faculty of Medicine prizewinners were: The Lister Prize in Surgery, J. C. Callaghan, M.D., B.Sc. (Med.), F.R.C.S.[C]; Cody Gold Medal, R. J. Baird; Cody Silver Medal, R. J. Watson; Cody Silver Medal, J. G. Humphrey; Chappell Prize in Clinical Medicine, H. Berry; Hendry Memorial Scholarship, G. M. Deyo; O.M.A. Prize in Preventive Medicine, J. G. Humphrey; Dr. Roy Simpson Scholarship in Pædiatrics, R. L. Perkin; Ellen Mickle Fellowship, R. I. Watson; Medical Alumni Association Scholarship, R. J. Watson; Medical Alumni Association Scholarship, R. J. Baird; Butterworth Prize, M. J. B. Stalker.

The graduating class numbered 156. Master of Surgery was granted to J. C. Callaghan. Doctor of Medicine degrees were also conferred on the 22 members of the Class of 1904. Bachelor of Science in Medicine was granted to three, Diploma in Public Health to six, Diploma in Medical Radiology to one and Diploma in Psychiatry to 12 candidates.

The honorary degree Doctor of Laws was granted to Mr. H. D. Scully and Dr. O. M. Solandt who delivered the graduation address. LILLIAN A. CHASE LILLIAN A. CHASE

QUEBEC

The date for the second Francis Shepherd Memorial Lecture has been fixed for October 5, at 2 p.m.

The Lederle Laboratories in Montreal were hosts on June 29 to a group of representatives of the press who were given full information regarding the production of gamma globulin in the Lederle Montreal plant.

Gamma globulin is now being produced steadily and in large quantities by the Lederle Company. Its preparation by the Connaught Laboratories in Toronto has been going on for some time past, but the Lederle Labora-tories are the first and so far the only commercial manu-facturers of it. The source of the blood is fresh human placentas. By careful and extensive organization work about 40 hospitals across Canada have agreed to send in all placentas obtained in their obstetrical work. The Lederle Company supplies each of these hospitals with a deep freeze unit and special cellophane bags and containers. Each placenta is stored in the refrigerator immediately after delivery and shipped to Montreal as soon as possible.

The process of extracting the gamma globulin was demonstrated in detail and was of extreme interest. The grinding up of the placentas and the separation of the fluid from the solids, the drying under vacuum to a cream-coloured powder and its eventual dilution and cream-coloured powder and its eventual dilution and packaging under rigid precautions, were all clearly shown.

The use of the placenta as a source of blood is well judged plan, since there is no overlapping with other sources on which the Red Cross depends for its own supplies. With the co-operation of the hospitals mentioned there is no fear of the supply being inadequate, and gamma globulin will now be available in steady and increasing quantities.

This month Montreal was host to some 30 countries This month Montreal was host to some 30 countries at the 14th International Congress of Psychology. The combined hosts to the 1,000 delegates were the University of Montreal and McGill University. Much of the success achieved was the result of some three years' work and planning by Rev. N. Mailloux, head of the Psychology Department of the University of Montreal, also secretary-general of the Congress, and Dr. D. O. Hebb, chairmen of the department of Psychology at McGill chairman of the department of Psychology at McGill.

The emphasis of the whole Congress was on the real human problems of the day, not on laboratory work. Further, it had been deliberately planned to bring to-gether the latest developments in the sometimes divergent European and North American thinking.

The highlight of this Congress for your reporter was an address by Dr. Wilder Penfield, director of the Mon-treal Neurological Institute. He discussed results of his studies over the past 20 years in exploring mechanisms in the human brain which preserve the record of the stream of thought. From time to time stimulation of the exposed cortex has produced an astonishing result so that small parts of that person's record are brought back into small parts of that person's record are brought back into his present consciousness with a startling degree of vividness and detail. He also gave evidence that patients produce "déjà vue phenomena," the sense that what is happening to them in the present must have happened before. Hughlings Jackson has called these memories "dream states." But they are psychical hallucinations drawn from a patient's past experience in which scenes are re-enacted, persons speak, emotions are felt scenes are re-enacted, persons speak, emotions are felt and the action goes always forward. Dr. Penfield concluded with the wish that psychologists, psychoanalysts and physiologists may be brought close together and some light might yet be shed on the mind of man.

Another interesting gathering in Montreal this month was the Forensic Society of Canada. Although the Society, comprising the best of medico-legal experts in the country, is scarcely out of its infancy—it held its second meeting at the University of Montreal—it is succeeding in its chief test of merging all Canada's expending. ceeding in its chief task of merging all Canada's expert knowledge of crime detection.

Prof. Jocelyn Rogers, of the University of Toronto, retired as the first president. He was succeeded by Dr. Rosario Fontaine, the Province of Quebec's best known medico-legal expert and one of the pioneers of his profession in the country. In a series of reports, the delegates were brought up to date on a number of facets of the application of science to crime detection. Alan Eagelson, of Toronto, told how a spot of paint on a car fender and a bicycle struck in a hit-and-run case could be linked via today's spectrograph. John Bartlet and Mrs. Pat Oestreicher, of Ottawa, explained the campaign to stop the illegal sale of opium, morphine and heroin at source via international co-operation. A forensic science, by the way, is any one which is related to the practice of law and law enforcement.

As I have reported on previous occasions, early in 1955 the Children's Memorial Hospital of Montreal hopes to move once more, probably for the last time. This move will transplant the institution to the large Western Division building of the Montreal General Hospital of Atmentages and Theorem Streets. The Western will pital at Atwater and Tupper Streets. The Western will then be operating in its spanking new plant further along on Cedar Avenue. Next month construction of a new wing and the Nurses' Residence will begin at this new site.

With this change, a name, the Children's Memorial Hospital, old and revered in Montreal's medical history, will disappear. The hospital will in the future be known as the Montreal Children's Hospital. Founded in 1903 as a hospital for "crippled children," its scope was gradually extended until today it is an active general hospital for children which has a complete range of investigative and treatment services and equipment. It is felt that the new name will more appropriately emphasize the character of the present-day institution.

We were most pleased to note that a Quebec family physician, Dr. M. R. Stalker, of Ormstown, was formally installed in Vancouver as the first president of the College of General practice of Canada. Our best wishes also go out to Dr. J. E. Beaudet, of Thetford Mines, on being awarded Senior Member of the C.M.A. at the recent Vancouver meeting. Dr. Beaudet has been in general practice for more than half a century—a well-deserved honour expertly placed. Lastly congratulations to Dr. honour expertly placed. Lastly, congratulations to Dr. Harold Griffith who was recently promoted to full professorship in anæsthesia at McGill University, and who has been awarded the Feltrinelli International Award in Medicine, by Academie Linera, Rome, for pioneer work in the introduction of the relaxing drug, curare.

A. H. NEUFELD

SASKATCHEWAN

A total of \$343.60 was paid by 15 residents of Sask-atchewan recently for failure to pay the provincial hospitalization tax, with fines and court costs ranging from \$1.00 to \$54.00.

A report prepared by Drs. F. B. Roth, M. S. Acker, M. I. Roemer, and Mr. G. W. Myers of the Provincial Health Department of Saskatchewan was recently read at the 42nd Annual Meeting of the Canadian Public Health Association in Quebec, describing some of the changes that occurred when a government hospital in-

oranges that occurred when a government hospital insurance plan went into effect in this province.

Dr. Roth, the Deputy Minister of Public Health, who read the report, stated that when the plan went into effect in 1947, there were 156 hospital discharges per 1,000 population. This rate has now increased to 200 per 1,000 and has remained at about this level. This report would suggest that hospital services are used more widely by rural than urban residents. At the present time it might appear as if there is a tendency, the report stated, for patients to be admitted to hospital for illnesses of lesser gravity than a surgical operation and that it is obvious that the factors found in this study are associated with conditions of universal hospital insurance in which economic barriers are removed.

The Department of Public Health of Saskatchewan has recently announced that the Regina Physical Re-habilitation Centre has been expanded into an additional half-wing of the Saskatchewan Boys' School, The Physical Rehabilitation Centre will now occupy one and a half wings of the Boys' School.

In June the libel case involving the College of Physicians and Surgeons of Saskatchewan, and Dr. David H. Arnott of London was heard. Judgment was reserved.

The case arose over a report in the College's Medical Quarterly for December 1951, in which the "Koch" treatment for cancer was called "quackery." A Queen's Bench Court judgment delivered in June 1953, said that the words were defamatory to Dr. Arnott, and he was awarded damages of \$7,000. This decision was appealed in the Saskatchewan Appeal Court. The court ruled that there was no evidence that the word "quackery" referred to Dr. Arnott, and the dismissed to Dr. Arnott, and that the action should be dismissed. Dr. Arnott appealed this ruling to the Supreme Court. G. W. PEACOCK

NEWS OF THE MEDICAL SERVICES

Canadian Armed Forces

The Medical Director General of the Royal Canadian Navy, Surgeon Captain E. H. Lee, C.D., Q.H.P., R.C.N., attended the recent convention of the Canadian Medical Association held in Vancouver. Surgeon Captain Lee made his annual inspection of Pacific Coast medical facilities following the convention. On his return to Naval Headquarters he visited the several Reserve Divisions in the Western Provinces and renewed contacts with the the Western Provinces and renewed contacts with the many medical officers on the strength of the Royal Canadian Navy (Reserve). While he was visiting H.M.C.S. Unicorn in Saskatoon, Sask., his home town, Naval Headquarters announced that Dr. Lee had been promoted to the rank of Surgeon Commodore. Surgeon Captain T. B. McLean, C.D., Command Medical Officer, Pacific Coast, was also in attendance at the Canadian Medical Association meeting.

Naval Headquarters has announced the appointment of Surgeon Commander H. R. Ruttan, O.B.E., C.D., R.C.N., formerly Principal Medical Officer of H.M.C.S. Cornwallis as Commandant of the recently organized Joint Medical Training Centre in Toronto, Ont. Dr. Ruttan was also promoted to the rank of Acting Surgeon Contains Captain.

Appointed to Surgeon Captain Ruttan's staff is Surgeon Lieutenant Commander V. S. Newman who has been on the staff at R.C.N. Hospital, Esquimalt, B.C., for the past two years.

Her Majesty The Queen has approved the appointment of Her Majesty Queen Elizabeth The Queen Mother as Colonel-in-Chief of the Royal Canadian Army Medical Corps.

Brigadier E. A. McCusker, C.B.E., M.C., E.D., M.D., C.M., has been appointed Honorary Colonel Commandant of the Royal Canadian Army Medical Corps.

Major E. H. Anderson and Lt. J. D. Cooper have been appointed to the staff of the Joint Medical Training Centre in Toronto, Ontario.

Major J. L. Johnston has been promoted to the rank of A/Lt.-Col. and appointed Officer Commanding Wainwright Military Hospital.

Major J. R. Feindel has been promoted to the rank of A/Lt.-Col. and appointed Officer Commanding 2 Field Ambulance in Germany.

Major J. H. Watson has been promoted to the rank of A/Lt.-Col. and appointed Officer Commanding 4 Field Ambulance.

Lt.-Col. M. Fitch has been appointed Officer Commanding the recently formed Canadian Base Medical Unit which is integrated with the British Military Hospital in Iserlohn, Germany.

Lt.-Col. R. K. Muir has been appointed Medical Specialist on posting to Toronto Military Hospital.

Major B. D. Jaffey has been appointed to an assistant residency in Medicine at Brooke Army Hospital, Fort Sam Houston, Texas.

Capt. B. P. Doyle has been appointed to an assistant residency in Surgery at Brooke Army Hospital, Fort Sam Houston, Texas.

Authority has been granted for the R.C.A.M.C. to enroll female other ranks personnel. These girls will be trained as nursing assistants during the first years of their service. The training programme is designed to enable those who have necessary aptitudes to obtain the civilian certificate as Nursing Assistant. Those who elect for a further period of service and have the necessary qualifications may qualify as registered nurse and be given commissioned rank.

A Medical Joint Training Centre has been formed at the Institute of Aviation Medicine, Toronto, on a tri-service basis to ensure that all medical officers coming into the Service receive training in military medicine prior to Service practice. The role of the Centre is to train medical officers of the three Services on subjects of interest peculiar to the service medical officer which are not stressed in civilian training and practice. The first course at the Centre commenced July 15, 1954 in which 25 medical officers from the three Services were en-

NEWS AND NOTES

THE CANADIAN SOCIETY FOR THE STUDY OF FERTILITY

The Canadian Society for the Study of Fertility will hold its first annual meeting at the Windsor Hotel, Montreal, on September 30, October 1 and 2. The meetings are open to all physicians interested in this field. The registration fee is \$10.00. Inquiries should be addressed to, Dr. R. J. McDonald, Secretary, C.S.S.F., Woodstock, Ontario.

NURSES IN TRAINING

A survey of nursing students in the Birmingham area (Brit. I. Prev. Soc. Med., 8: 70, 1954) showed that the student entering training under 18 is more likely to fall out than the older student, and that the better educated student (as judged by possession of a high school matriculation certificate) is more likely to complete training. ing. Success rates were also far higher if the girl had had some previous nursing experience, for example, in the Army.

the Army.

The overall rates for wastage in training are alarmingly high in Britain. For all schools (general, mental, fever, tuberculosis, orthopædic and ophthalmic) only 41 out of every 100 students completed training. The proportion leaving of their own accord is much higher than that requested to leave. There was a 6% wastage due to marriage during training and a 6% wastage due to illness. The breakdown of wastage by training schools shows that no less than 82% embarking on mental hospital training fail to make the grade, as against 65% for tuberculosis hospitals, and 37% for general hospitals. Most of the failures occur in the first year of training. Most of the failures occur in the first year of training.

EMERGENCY BEDS

Hospitals are constantly attempting to deal with the problem of making provision for emergency patients without leaving at times an unreasonable number of beds empty. Newell (Brit. J. Prev. Soc. Med., 8: 77, 1954) set up a mathematical model of emergency beds required in relation to demand, and tested the model on a large teaching hospital. He finds that, for average daily demands of between five and 30 emergency beds, provision of two more beds than the average is needed to ensure availability of a bed in 95% of emergency cases. If four more beds than the average are provided, a bed is ensured for 97.5% of cases. In these calculations, account must be taken of seasonal and weekend variations. Hospitals are constantly attempting to deal with the

(Continued on page 72 of the advertising section)

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BOOK REVIEWS

THE BRITISH ENCYCLOPÆDIA OF MEDICAL PRACTICE—PHARMACOPŒIA

Edited by G. E. Hesketh. Under the General Editorship of The Rr. Hon. Lord Horder, Extra Physician to H.M. The Queen; Consulting Physician to St. Bartholomew's Hospital, London. 542 pp. \$15.00. Butterworth & Co. (Canada) Ltd., Toronto 6, 1953.

This book, an addition to the Second Edition of The British Encylopaedia of Medical Practice, lists in its first part alphabetically, and sub-headed to facilitate reference to the more important characteristics of each drug, all of the products referred to in the Encyclopaedia. This is followed by a listing of manufacturers' addresses—both United Kingdom and overseas. Appended, and in order to facilitate easy reference, is a "Condition Index" which lists the therapeutic agents in current use in any disease. Doctors as well as pharmacists will find this book a very handy reference. It will be of special assistance to readers of the Encyclopaedia.

ATOMIC MEDICINE

Edited by C. F. Behrens, Rear Admiral, MC, U.S. Navy, Staff Medical Officer, Eastern Sea Frontier. 632 pp. illust. 2nd ed. \$11.00. The Williams & Wilkins Co., Baltimore, Md.; Burns & MacEachern, Toronto 2, 1953.

This completely revised edition has been fully brought up to date. Contributors to the 22 chapters are authorities in their respective fields. The purpose of the volume is to provide all the necessary pertinent information—physical, physiological and medical. Following each chapter is an excellent bibliography. The chapters on pathology, hæmatology and therapy are rather well done. Laboratory design and dosimetry, as well as the use of isotopes in research and the application of more specialized research elements, are discussed. There are some typographical errors. Furthermore, additional critical editing of some of the chapters would have eliminated a good deal of repetitious material, particularly in the physical aspects. This book is a suitable text to provide basic information in atomic medicine. There is also ample information to guide the physician in the use of radioisotopes in therapy. In fact, about a third of the book is devoted to this subject.

THE CYCLOPEDIA OF MEDICINE, SURGERY, SPECIALTIES

Editor-in-chief: G. M. Piersol, Professor of Medicine and Director of the Centre for Research and Instruction in Physical Medicine, Graduate School of Medicine, and Professor of Physical Medicine, School of Medicine, University of Pennsylvania. Assistant editor: E. L. Bortz, Associate Professor of Medicine, Graduate School of Medicine, University of Pennsylvania. In 15 volumes, including index volume. 14,460 pp. illust. 3rd ed. Cloth, loose-leaf. \$195.00. F. A. Davis, Philadelphia; The Ryerson Press, Toronto, 1953.

It is extremely difficult to review a work of this magnitude, presumed to contain all the information required for the practice of medicine on a desert island. The only way to test the value of such a work is to keep it handy to the desk, and consult it frequently over a period of weeks. Judged by this criterion, the encyclopædia fulfils all reasonable requirements as a substitute for a reference library. The distinguished list of contributors may be assumed to constitute a guarantee for the accuracy of the information given. Such a work must of course stand or fall by the efficiency of its "follow-up" service. The publishers announce that this will be done by two methods: the publication of additional pages of new material, and the continued publication of an Annual Service Volume, reviewing outstanding advances.

In this new third edition of a work first produced over 20 years ago, the loose-leaf system has been adopted with the above periodical revision in mind, but there is nothing cheap or flimsy about the presentation. In a task of this size, it would be easy to find points of disagreement or to cavil at the fact that some contributions are already in need of revision; considering the work involved, however, Dr. Piersol and his team have done well to achieve such a high standard of presentation.

MEDICAL HISTORY OF THE SECOND WORLD WAR

Civilian Health and Medical Services. Edited by Sir A. Salusbury MacNalty. Vol. I. 441 pp. illust. 45s. Her Majesty's Stationery Office, London E.C. 1, 1953.

This is the first volume in a series of two depicting the activities of the civilian health and medical services during the period of rapid expansion and administrative readjustments brought on by the Second World War.



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THE VITAMINS IN MEDICINE

F. Bicknell, Honorary Physician, French Hospital, London., and F. Prescott, Clinical Research Director, The Wellcome Foundation, London. 784 pp. illust. 3rd ed. revised. 70/-. \$12.00. William Heinemann Medical Books Ltd., London; British Book Service (Canada) Ltd., Toronto 6, 1953.

After a gap of seven years, this outstanding reference book on vitamins comes back extensively rewritten, and an indispensable guide for workers in this field. The book now contains 5,500 references to papers, of which it gives a balanced review, with caustic comments when these appear warranted. Thus in discussing vitamin A poisoning, the authors castigate manufacturers who do not warn buyers that highly concentrated vitamin A preparations are toxic. They consider in detail and with timely scepticism the relation of thiamine to neuritis. Their warning to doctors not to drink vitamin D concentrates for their tonic effect (the first sign of toxicity) should not go unheeded.

There is an interesting paragraph on English bread, in which the authors remark that the British Government "in its infinite lunacy continues to permit the agenizing of flour," and quote the rhyme:

"Bleached flour does more than Malthus can To sterilize the Englishman."

Reading this stimulating and comprehensive work will go far towards correcting loose thinking about vitamins in medicine.

CLINICAL CHEMICAL PATHOLOGY

C. H. Gray, Professor of Chemical Pathology, University of London; Chemical Pathologist, King's College Hospital, London. 138 pp. illust. \$1.80. Edward Arnold & Co., London; The Macmillan Company of Canada Ltd., Toronto 2, 1953.

Provided that Professor Gray's little book is used by medical students as a substitute for lecture notes in revision, or by interns or general practitioners for quick reference, the work can be warmly recommended. It is not intended for use as a complete text on chemical pathology, and indeed the student beginning that subject might find that the material in the book was too compressed for easy reading. Although the author lays no claim to comprehensiveness of treatment, the student who is familiar with its contents will have a good knowledge of chemical pathology. The chapters on blood sugar and on liver disease are of particular merit.

DISEASES OF THE CHEST

Edited by Sir G. Marshall, Consulting Physician, Guy's Hospital, Brompton Hospital, and King Edward VII Sanatorium, Midhurst, Sussex; and K. M. A. Perry, Assistant Physician, The London Hospital; Visiting Physician, Papworth Village Settlement, Cambridge. Vol. 1, 456 pp. illust., Vol. II, 413 pp. illust. \$26.50. Butterworth & Co. (Canada) Ltd., Toronto, 1952.

In these volumes the problem of correlating the writings of 31 authors has been solved with skill. There is very little redundancy or overlapping. A slightly better grouping of the chapters would make it easier for the reader who might wish to follow through diseases of the bronchial tree. The index is excellent. The illustrations are on the whole very good and are not in such number as to detract from the well written text.

There is a tremendous amount of information in these two volumes. Differences of opinion are discussed fairly. Well proven methods are stressed. Pathology and bacteriology are well integrated with each subject under discussion. Although more detail and discussion might be wished by those interested primarily in chest disease, these two volumes will constitute a very valuable reference book for all others. The editors should be praised for including chapters on anæsthesia and physiotherapy.

CLINICAL MEDICINE

R. D. Lawrence, Physician-in-Charge, Diabetic Department, King's College Hospital, London. 64 pp. 7/6d. H. K. Lewis & Co., Ltd., London, 1954.

The First World Conference on Medical Education in 1953 must have stimulated much thought on the teaching and learning of medicine. Before the Conference, Dr. Lawrence had already written the collection of essays which now appear in book form. These essays are well worth reading, but the difficulty is to know to whom they should be recommended. The earlier ones—on thinking processes, on diagnosis, and on beginning clinical studies—are more suitable for the junior medical student. The latter part of the book contains Dr. Lawrence's very sound advice to both students and teachers, including a suggestion for weekend conferences at which the medical teachers of the future would practise their art under criticism, not of the material of their lectures but of the didactic value. He stresses the need, in the postgraduate education of family doctors, for the big medical centre to send teams out to the periphery, as has been done by B.M.A. activity in Australia. He also sees no reason why a specialist should not keep up his interest in the general progress of medicine.

He has a word on the teaching of the art of medicine, as opposed to its purely scientific side, and he makes proposals for the reform of the curriculum, including the elimination of much useless anatomy and some useless academic physiology.

EXPERT COMMITTEE ON DRUGS LIABLE TO PRODUCE ADDICTION

4th report World Health Organization Technical Report Series No. 76. 13 pp. \$0.25, 1/9, Sw. fr. 1. World Health Organization, Palais des Nations, Geneva; The Ryerson Press, Toronto, 1954.

The parts of this report of most interest to clinicians are the opinions expressed that there should be no relaxation in the control of codeine and ethylmorphine, that morphine retard preparations must be handled and controlled exactly like other morphine preparations, that nalorphine should not be considered an addiction-producing drug, and that control over amphetamine and its derivatives should be strengthened.



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ACTINOMYCETES AND THEIR ANTIBIOTICS

S. A. Waksman, Professor of Microbiology, Rutgers University; and H. A. Lechevalier, Assistant Professor of Microbiology, Rutgers University. 246 pp. \$5.00. The Williams & Wilkins Co., Baltimore; Burns & MacEachern, Toronto, 1953.

The first part of this book gives the description of the species of the Actinomycetes. The intensive search for antibiotics in the Actinomycetes is reflected here in the large number of newly isolated species of the genus Streptomyces. Unfortunately, no synonyms of the species described are given; however, they will be found in the forthcoming new edition of Bergey's Manual. This lack reduces the value and usefulness of the book for identification purposes. The second section refers to the antibiotics already extracted from the Actinomycetes. Two keys are provided based on antibiotic spectrum and chemical properties, so far known, of these antibiotics. A more detailed description of the antibiotics concludes the book; each substance is listed together with its synonyms, method of extraction, chemical and physical properties, biological activity, toxicity, and utilization. This book has been written primarily for workers in the field of antibiotics and its clear and straightforward presentation reflects the authors' experience in this subject.

An Rh-Hr SYLLABUS

Modern Medical Monographs No. 9. A. S. Wiener, Senior Bacteriologist (Serology) to the Office of the Chief Medical Examiner of New York City; Assistant Professor, Department of Forensic Medicine, New York University Postgraduate Medical School. 82 pp. illust. \$4.25. Grune & Stratton, New York; The Ryerson Press, Toronto, 1954.

The author of this little book has recently published a comprehensive work on the subject entitled The Rh-Hr Blood Types; Applications in Clinical and Legal Medicine and Anthropology. The present volume is an ingeniously arranged introduction to the subject, in which the text is arranged in glossary form without loss of continuity of the narrative. There is a great deal of information in a small compass, including discussion of serology and genetics of the Rh-Hr types, erythroblastosis fœtalis, blood transfusion accidents, and anthropological and medico-legal aspects of the subject. As expected, the champions of the CDE classification are vigorously taken to tak for their bereath. to task for their heresy.

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Books Received

Books are acknowledged as received, but in some cases reviews will also be made in later issues.

The Drama of Fluorine. L. Spira. 142 pp. \$2.00. Lee Foundation for Nutritional Research, Milwaukee 3, Wisconsin. 1953.

Veterans Administration Technical Bulletins, Series 10. NOT FOR SALE) Vol. VI, 1952 and 1953. 597 pp. Veterans Administration, Washington 25, D.C.

Health by Sickness—The Problem of Immunity. H. J. Flechtner. 352 pp. Illust. Econ-Verlag GmbH, Dusseldorf, Gernany. 1954.

Practical Procedures in Clinical Medicine. R. I. S. Bayliss, Medical Tutor and Senior Medical Registrar, Postgraduate Medical School of London. 445 pp. Illust. \$5.50. J. & A. Churchill Ltd., London. W.1., British Book Service (Canada) Ltd., Toronto 6, 1950.

Perimetry. J. Zuckerman, Fellow of the American Academy of Ophthalmology and Otolaryngology; Diplomate in Ophthalmology; Instructor in Ophthalmology, New York University Postgraduate Medical School. 391 pp. Illust. \$10.00. J. B. Lippincott Company, Montreal, 1954.

Geriatric Medicine. Edited by E. J. Stieglitz, Consulting Internist, Suburban Hospital, Bethesda, Maryland and Washington Home for Incuraoles; Chairman of Staff 1945-1947, Suburban Hospital, Bethesda, Maryland, 718 pp. 3rd ed. Illust. \$15.00. J. B. Lippincott Company, Montreal, 1954.

Acute Renal Failure. A. Grollman, Professor and Chairman, Department of Experimental Medicine; Lecturer in Pharmacology and Toxicology, Scuthwestern Medical School of the University of Texas. 92 pp. Illust. \$4.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Amebiasis. E. C. Faust, The William Vincent Professor of Tropical Diseases and Hygiene; Head of the Division of Parasitology Department of Tropical Medicine and Public Health, Tulane University of Louisiana, New Orleans. 154 pp. Illust. \$5.25. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Lung Cancer, S. M. Farber, Associate Clinical Professor of Medicine, University of California Medical School, Lecturer in Diseases of the Chest, University of California School of Public Health. 157 pp. Illust. \$5.25. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Textbook of Bacteriology. R. W. Fairbrother, Director of the Department of Clinical Pathology, Manchester Royal Infirmary. Special Lecturer in Bacteriology, University of Manchester. 484 pp. Illust, 6th ed. Revised. \$4.25. William Heinemann Medical Books Ltd., London; British Book Service (Canada) Ltd., Toronto 6, 1952.

The Child, his Parents, and the Physician. H. F. Shirley, Professor of Pediatrics and Psychiatry; Director of the Child Psychiatry Unit Stanford University School of Medicine, San Francisco, California. 158 pp. Illust. \$4.25, Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Joseph Barcroft, 1872-1947. K. J. Franklin; The Medical College of St. Bartholomew's Hospital 381 pp. Illust. \$10.00. Blackwell Scientific Publications, Oxford; The Ryerson Press, Toronto, 1953.

Fundamentals of Neuropathology. W. B. Dublin, Chief, Laboratory Service, Veterans Administration Hospital: Associate Professor of Pathology, University of Colorado School of Medicine. 685 pp. Illust, \$20.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Menorrhalgia: Menstruai Distress. W. Bickers, Diplomate American Board Obstetrics and Gynecology. Attending Gynecologist to Retreat for Sick, Sheltering Arms, Richmond Community and Evangeline Booth Hospitals, Richmond, Virginia. 97 pp. Illust. \$3.00. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Illustrated Gulde to Sex Happiness in Marriage. L. Radl, 95 pp. Illust. \$2.25. William Heinemann Medical Books Ltd., London; British Book Service (Canada) Ltd., Toronto 6, 1953.

A Manual on Cardiac Resuscitation. R. M. Hosler. 183 pp. Illust. \$4.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Surgical Infections, E. J. Pulaski, Lieutenant-Colonel, Medical Corps, United States Army, Deputy Director, Division of Surgery Walter Reed Army Medical Center. 332 pp. Illust. \$8.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

Neurosurgery of Infancy and Childhood. F. D. Ingraham, Associate Professor of Surgery, Harvard Medical School; and D. D. Matson, Assistant Professor of Surgery, Harvard Medical School. 456 pp. Illust. \$16.00. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

An Atlas of Congenital Anomalies of the Heart and Great Vessels. J. E. Edwards, (and others), Consulting Physician in Section of Pathologic Anatomy, Mayo Clinic. 195 pp. Illust. \$15..00. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1954.

injuries of the Spinal Cord. Edited by G. C. Prather, and G. H. Mayfield, 396 pp. Iliust. \$9.75. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1953.

APHASIA THERAPEUTICS

By Mary C. Longerich, Ph.D., and Jean Bordeaux, Ph.D.

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Here is a detailed description of the speech and language symptoms characteristic of each type of aphasia, together with a full discussion of effective treatment based on differential diagnosis of each manifestation.

HORMONES IN HEALTH AND DISEASE

Edited by R. L. Craig, M.D., for The New York Academy of Medicine Twenty-fifth Graduate Fortnight.

346 pages, illustrated. 1954. \$6.00.

This symposium records the latest advances in endocrinology as discussed by the outstanding participants of the 25th Graduate Fortnight. Consideration is given to the influence of the hormones on the emotions and their relationship to peptic ulcer; the endocrine control of metabolism; disorders of the thyroid gland; Cushing's syndrome; and the hormonal control of neoplastic growth.

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Papers should be kept below 4,000 words wherever possible. Whilst not necessarily a cause for rejection, excessive length of an article is undesirable.

References: in the case of a journal arrange as follows: author (Jones, A. B.), title, journal, volume, page, year. In the case of a book: Wilson, A., Practice of Medicine, Macmillan, London, 1st ed., p. 120, 1922.

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News: The Editor will be glad to consider any items of news that may be sent in by readers.



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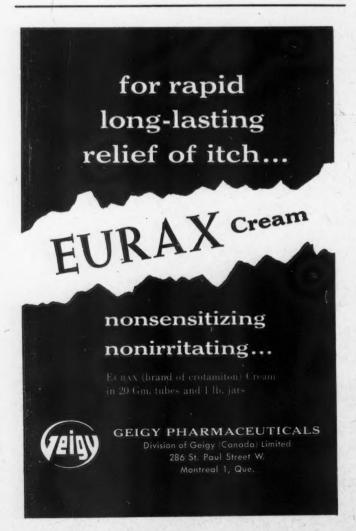
"The work of the medical Section, and in this one may include the more strictly medical contributions which were delivered in the general meetings, contained nothing very new nor very radical. This, however, is not a criticism, but rather an observation. Further, unconsciously on the part of those who prepared the programme, there appeared in the majority of the papers and discussions a dominant note of conservatism as to the finality or the infallibility of a number of present day medical tenets, while at the same time due weight was given to their intrinsic usefulness. As a matter of fact a fairly comprehensive motto for the programme might read 'All is not gold

that glitters.'
"Perhaps the keynote of the medical division was sounded by Dr. Parkinson of the National Heart Hospital of London in his address upon 'The diagnosis of a healthy heart,' which was a scholarly, concise and delightful exposition of a subject of universal interest to every medical man; and while the speaker touched on little that most of us have not learned, he pointed out much that we are apt to forget.

"Who teaches the Englishman the English language? Who-

ever he is, he does it well.

"It was altogether a sound and profitable meeting, but one might perhaps regret the absence from the section meetings of a great number of stimulating contributions from the more eager and younger men. These do appear in numbers, but mostly in the proceedings of societies across the line, to the detriment of our National Association. Might we not at another meeting show our love for Cæsar not less, but for Rome still



Nova Scotia News

"Provision has been made by the Canadian Department of Marine and Fisheries for medical aid and hospital treatment for fishermen engaged on the Grand Banks and generally for bailors on the Canadian and Newfoundland vessels which may be in neighbouring waters. The government steamer Arras has been fitted up as a hospital ship, with Dr. Stanley H. Peppard in charge of the medical service, and is now on duty on the Grand Banks. The base of supplies is to be St. John's, Newfoundland" foundland.

QUEBEC NEWS

"French Doctors meet in Quebec.—Medical men speaking the French language will meet in the ancient capital on September 10 to 12 under the auspices of the Association des Médecins Français de l'Amerique du Nord. In addition to members of the profession in Canada and the United States, a representative delegation from Europe will be present. Hon. Athanase David, provincial secretary, has accepted the office of honorary president of the congress. Its sessions will be held in the University Building. For the general addresses, the Parliament Buildings, and the City Hall will afford spacious accommodation.

ALBERTA NEWS

"At the banquet Thursday evening the chief speaker was Dr. T. C. Routley, who spoke very convincingly and effectively on the benefits to be derived by the profession, individually and collectively, from an increased membership in the Canadian Medical Association. It was clearly shown that by organization of the Medical profession of the Dominion and the perfect co-operation of the Provincial Association with the Canadian Medical Association, iniquitous legislature which from time to time threatens the welfare not only of our profession but the health and safety of the public generally, can be successfully combated and prevented from gaining a foot-hold. With proper support by the individual members of the profession, the Canadian Medical Association can properly and effectively Canadian Medical Association can properly and effectively conduct through the press a programme of education of the public, in reference to public health problems and the aims of the medical profession? the medical profession.

BRITISH COLUMBIA NEWS

Pacific Northwest Medical Association Convention at Vancouver, B.C. June 26, 27 and 28, 1924.

"The Third Annual Meeting of the Pacific Northwest Medi-The Third Annual Meeting of the Pacific Northwest Medical Association, held in Vancouver on June 26, 27, and 28, furnished ample proof that this Association, while one of the youngest associations on the continent, is a lusty youngster, destined to measure strength and usefulness with any of its older confreres in the country in the near future.

"The attendance was much the largest since the inception of the Association. There was a total registration of 589. Being

the first international medical convention ever held in B.C., it attracted perhaps more than usual attention from all memattracted perhaps more than usual attention from all members of the profession in the province, but their faithful attendance at all sessions indicated that it was a keen desire to take active part in the work of the convention, rather than any sense of duty as hosts, that was the underlying motive. The attendance at all sessions was quite remarkable, and a full house when the morning meetings opened sharp at 8.30 made some of the easterners rub their eyes. They found that it was a gathering of earnest men, eager to take full benefit of the opportunities it afforded in the practical talks of recognized authorities. The social side of the meeting, however, did not suffer in any way from this devoted attention to business. The great majority of the delegates had brought their wives; many of them had their whole families with them, and it was estimated that in all there were more than one thousand visitors connected with the convention in Vancouver during the three days."



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NEWS AND NOTES

(Continued from page 190)

APPLICATIONS FOR RESEARCH AWARDS ACCEPTED BY AMERICAN HEART ASSOCIATION

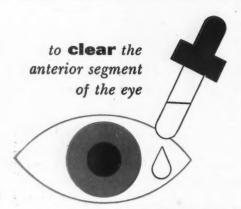
Applications for research awards to be made during the coming year by the American Heart Association and its affiliates throughout the country are now being accepted, it was announced recently by Dr. Robert L. King, Chairman of the Association's Scientific Council.

Applications for Research Fellowships and Established Investigatorships may be filed up to September 15, 1954. Applications for research Grants-in-Aid will be accepted up to December 1, 1954. Information and forms may be obtained from the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, N.Y.

QUACK LITERATURE IN THE ARMED FORCES MEDICAL LIBRARY COLLECTION

A recent notice from the Food and Drug Administration that Dr. Wilhelm Reich's Orgone Institute and his Orgone Accumulators are frauds also informs us that the distribution of his books has been enjoined. The Armed Forces Medical Library, like many other large medical libraries, contains a number of Dr. Reich's publications—his earlier psychoanalytic writings (Reich was a student of Freud), as well as the later and more questionable works.

For a moment, we wondered whether circulation of these books could be considered as "distribution," and thus illegal; a minute's reflection tells us that it cannot. The larger question which comes to mind, however, is that concerning the expenditure of time and money by the Library to acquire and preserve quack literature.



anti-inflammatory anti-allergic anti-infective

ophthalmic suspension

Neo-Corte Drops

Dropper bottles of 5 cc.

Each cc. of Neo-Cortef Drops contains:
Hydrocortisone acetate.......15 mg.

Neomycin sulfate...... 5 mg. *TRADEMARK (equivalent to 3.5 mg. neomycin base)

Upjohn Fine pharmaceuticals since 1886

THE UPJOHN COMPANY OF CANADA 384 Adelaide Street, West, Toronto

Long ago, of course, the Library had to face up to this problem; the Reich case simply affords an excuse for reviewing the matter.

We feel that the Armed Forces Medical Library, as the national medical library, should preserve a picture of medicine as it is in any certain period, and this picture must include both the true advances and the false leads. Some quack literature is obviously of the lunatic-fringe variety; other portions may well be only the reaction to present excesses. We hold to the position adopted by Ploucquet in 1793, when he said that "a compiler cannot afford to indulge in the arrogance of deciding what is beneath . . . notice . . . Besides, the profession's favour may change and what has previously been condemned may later be approved." The principle to which we adhere is the collecting of the record of all that has been said and done by physicians and others, of all ages and nations, whether right or no, so long as it be addressed to the vexing problems of health and disease.—From A.F.M.L. News, June 1954.

MEDICINE IN KOREA

A note from Dr. E. B. Struthers in Seoul, Korea, draws attention to the work being done to control tuberculosis in Korea, by the Severance Institution, an international and interdenominational hospital under the Cooperating Board for Christian education.

Dr. Struthers shows that the death rate from pulmonary tuberculosis in Korea is about 400 per 100,000, probably as high as any to be found in a population of 20 million. This means that in South Korea there are about 400,000 cases of active tuberculosis needing sanatorium care. But there are less than 1,500 sanatorium beds. The living conditions make the problem an acute one. Patients with open infection live in the same room with the rest of the family, often one room only for the whole family life.

The immediate solution is the use of streptomycin, isoniazid and PAS. By means of these a certain proportion of patients can be made sputum negative, but the cases which do not respond remain open and infectious

A chest clinic has been organized in the Severance Hospital and under approved modern methods of detection, treatment, and visiting much is being done to deal with the situation.

The clinic works under extreme difficulty; a burnt-out building in Seoul has been partly repaired and is being used. A mobile miniature x-ray has been provided by the Church World Service and an x-ray machine for full size films has been given by the Korean government. More x-ray equipment is needed,, as well as a laboratory for the culture of tubercle bacilli. Still further plans call for a 100 bed sanatorium.

The Severance Hospital which is carrying on this work, has shown the unconquerable spirit which has characterized so many missionary projects in Japan and China. The Institution began with the work of Dr. Allen, a missionary who introduced modern medicine to Korea in 1884. The Emperor in recognition of Dr. Allen's saving the life of a royal prince, built a hospital for him which later was given the name of Severance in gratitude to a wealthy family who gave the money for development of the hospital. It became a college for teaching medicine, and has trained more than 1,200 doctors, or about 35% of all the doctors in Korea. The war took severe and crippling toll of its buildings and staff, but with what was salvaged another hospital was opened on Koje Island.

The hospital in Seoul is now being rebuilt and is working steadily. The funds have come from both government and private sources. There is very much yet to be done to bring Severance back to her former high estate, and it is hoped that additional Boards will come to her aid.

*Dr. Struthers was formerly with the Ontario Department of Health, in the Division of Tuberculosis Prevention.

PRELIMINARY COMMUNICATION: NEW THERAPEUTIC APPLICATIONS OF RESERPINE AND OF PURIFIED EXTRACTS OF RAUWOLFIA To the Editor, Canadian Medical Association Journal, Montreal.

Dear Sir:

We would like to report briefly on two new therapeutic applications of Reserpine and of purified Rauwolfia extracts. These observations result from the work that we have done with extracts of Rauwolfia serpentina in our Hypertension Clinic at the Hôtel-Dieu Hospital, Montreal

The first application concerns the treatment of subjects, The first application concerns the treatment of subjects, normal in every way,—except that they are constitutionally lean and their weights are much below the average standards for their height and their age. Three such subjects have been studied for the last nine months. Administration of Serpasil has resulted in a gain of 7 pounds in one and of 12 pounds in the two others. Withdrawal of the drug has resulted in a lowering of the weight to the control level. Re-administration of the Serpasil has again resulted in a similar weight gain.

again resulted in a similar weight gain.

The second application comes from the observation of a woman with essential benign hypertension who was being treated with a purified extract of Rauwolfia (Rauwiloid) and in whom a psoriasis of long standing was relieved almost completely, in less than three weeks. For the last 9 months, we have been studying 14 patients suffering from moderate to severe psoriasis. These patients who showed numerous lesions on various parts patients suffering from moderate to severe psoriasis. These patients who showed numerous lesions on various parts of their bodies, were treated with either Serpasil or Rauwiloid over a 3 to 9 month period. Eight of them showed a 50 to 95% objective and sustained improvement which occurred between 2 to 6 weeks after the onset of the treatment. In 6 of these, the improvement

was above 80%. Five others have noticed a slight improvement (from 10 to 20%) consisting in a decrease or a disappearance of the pruritus and in a modification of their lesions, which became paler and less thick than before. After the regression of the lesions, the skin was normal in texture but slightly brownish in colour. For the last two months, we have applied these new findings to the study of different types of dermatitis and in those where a psychosomatic factor seems to be a causal or additive factor. These included the group of eczemas, lichen planus, atopic dermatitis and other types ac-companied by itching.

So far the preliminary results have modified our initial attitude of scepticism into a quite enthusiastic one

> Jacques Genest, M.D., F.A.C.P., F.R.C.P.[C], Lidia Adamkiewicz, Raymond Robillard, Gilles Tremblay, from the Clinical Research Dept. of the Hôtel-Dieu Hospital, Montreal.

P.S. Further details will be given later.

ELECTRONIC CLINICAL THERMOMETER

An electronic clinical thermometer, invented by Col. G. T. Perkins of Walter Reed Army Medical Center, Washington, and in process of manufacture now, has the advantage of taking a patient's temperature accurately in five to seven seconds. A sensing device, consisting of a time calculation of a straining of a time calculation. ing of a tiny carboloy thermistor at the end of a stainless steel probe, is placed in the patient's mouth. It is connected by a cord to a mercury cell battery in a plastic handpiece, on which a meter registers the temperature. If generally adopted, the instrument would enable ward temperatures to be taken in one-fortieth the time now needed.-Science News Letter, May 29, 1954.



of Hydrogen Peroxide ipc with Carbamide

Instill one-half dropperful into affected ear four times daily Supplied in one-ounce bottles with dropper

Samples and Literature on request

Constituents:

Hydrogen Peroxide 1.5% Urea (Carbamide) 2.5% 8 Hydroxyguinoline 0.1%

Dissolved and stabilized in substantially anhydrous glycerol q.s.ad. 30cc.

International Pharmaceutical Corporation

132 Newbury Street, Boston 16, Massachusetts

FROM HOSPITAL TO HOME: NEED FOR MORE AID IN TRANSITION

The conclusion that lack of effective integration of health and social services can be "disastrous" for the welfare of the hospital patient has been reached by two investigators after studying the medical, social, and domestic histories of 705 men treated in Scottish hospitals.

They also state that it is not surprising that many patients soon break down after the "transition from the sheltered atmosphere of the modern hospital ward to the icy chill of the workaday world."

The investigators are Professor Thomas Ferguson and Dr. A. N. MacPhail, both of the Department of Public Health, University of Glasgow, and their conclusions have been published in Hospital and Community for the Nuffield Provincial Hospitals Trust.

UNSUITABLE WORK

The patients studied were an unselected group who were first seen in hospital and then visited in their homes three months, and then two years, after discharge. Within three months 10% of the men had died. 5% had been readmitted to hospital, and the condition of 10% had deteriorated. Most of the men had benefited from their hospital treatment, but when they returned to the worries of their homes, and the exertions of their employment, much of the improvement was undone.

Deterioration of health was most marked among unskilled manual labourers, 54% of whom were regarded as fit for work, compared with 67% of skilled manual workers. Most of those who were fit, and some who were not, were back at work; many knew that their job was unsuitable, but they saw little prospect of being able to change to work more suited to their physical condition.

Two years after discharge, a further 105 men had died, bringing the total deaths to 171. Among them were patients who had returned to their homes in reasonably good shape. They had then been faced with conditions at work and at home which inevitably hastened their end. Of those still alive, about two-thirds had derived substantial and lasting benefit from hospital care, a fifth had not improved and the rest (13%) were obviously

"SOME MISERABLE DEN"

Few patients left hospital "cured," fully able to return immediately to the hurly-burly of everyday life. "One day the patient lives in an atmosphere in which doctors, nurses, and social workers build up the protecting care that goes with hospital treatment nowadays; the next, he may find himself back, alone, in some miserable den, surrounded by the running walls and general decrepitude of the slum, with no one to get him a meal."

The authors recommend that patients needing convalescence should be admitted to convalescent rehabilitation hospitals, but their final opinion is to doubt whether results substantially better than those presented can be obtained with things as they are.

Without more help in the transition from hospital to everyday life, without decent living conditions and reasonably suitable work to which the patient can return on leaving hospital, even the most careful and enlightened treatment is not likely to achieve a full measure of lasting benefit," they state.

Hospital and Community is published by the Oxford University Press, price 9s. 6d.

(Continued on page 76 of the advertising section)



BLUEBLOOD IN ITS FIELD

Audivox, successor to Western Electric Hearing Aid Division, brings the boon of better hearing to thousands.

These are the Audivox Hearing Aid Dealers who serve you in Canada. Audivox dealers are chosen for their competence and their interest in your patients' hearing problems.

BRITISH COLUMBIA

VANCOUVER—Mr. James M. Malcolm, Audivox of Canada, Suite 605, Vancouver Block, Vancouver, British Columbia. Tel: Pacific 1652.
NEW WESTMINSTER—Mrs. I. E. Inglis, James M. Malcolm Columbia. Tel: Pacific 1652.

NEW WESTMINSTER—Mrs. I. E. Inglis, James M. Malcolm Hearing Service, 624 Columbia Street, New Westminster, B.C. Tel: N.W. 4826.

VICTORIA—Mr. R. D. Gokey, James M. Malcom Hearing Service, 408 Scollard Building, Victoria. B.C., Canada. Tel: E-3034.

ALBERTA

EDMONTON—Mr. G. J. Giba, Edmonton Hearing Aid Centre, 104 Clarke Bldg., 10160-102nd Street, Edmonton, Alta. Tel: 22356. CALGARY—Mr. B. T. Foster, Foster Hearing Centre, 813 First Street West, Calgary, Alberte.

MANITOBA

WINNIPEG—William Williams Knettle, 638 Somerset Building, Winnipeg, Manitoba, Canada. Tel: 93-1759.

ONTARIO

CONDON—W. S. Hammond, Box 451, London, Ontario, Tel: 3-5907.
BRANTFORD—Mr. Jack R. Dymond, Owner, Mr. Arthur B. Read, Consultant, Dymond Drugs Limited, 82 Dalhousie Street, Brantford, Ontario, Canada. Tel: HAMILTON—Mr. Gordon Oakes, Hamilton Hearing Ald Service, 909 King East, Hamilton, Ontario, Canada. Tel: Liberty 4-1218.
OTTAWA—L. Lachance, 113 Clarence Street, Ottawa, Ontario, Canada. Tel: 2-5309.
TORONTO—Mr. I. B. Kaine, Institute for Better Hearing, 86 Bloor Street West, Toronto, Ontario, Canada, Tel: WA. 3-7622.
KITCHENER—E. R. Thede Hearing Aid Service, 88 Queen Street South, Kitcherer, Ontario, Canada, Tel: 6-6060.

QUEBEC

MONTREAL—Mr. Frank S. Peck, Peck Distributor Company, 1467 Mansfield Street, Montreal, Canada. Tel: LA. 0594.

QUEBEC—Rod Jolin, 325 Boulevard Charest, Quebec, Canada. Tel: 0000.

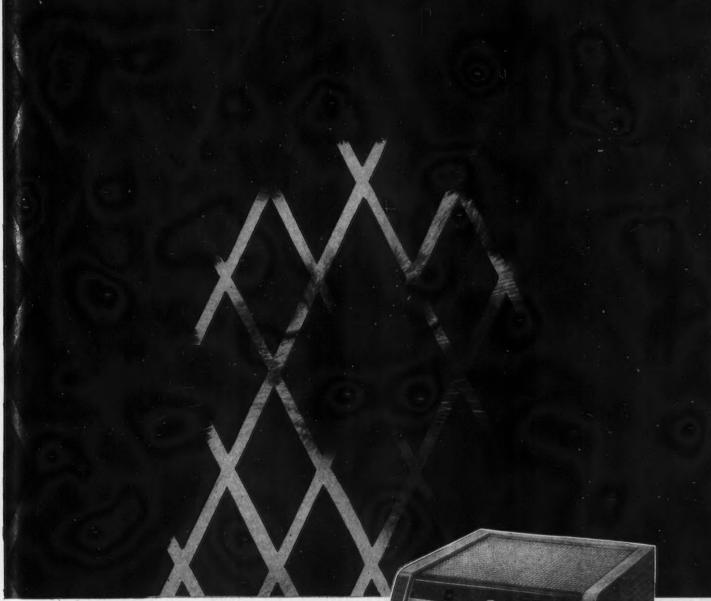
QUEBEC—Mr. Joseph Demers, Natural Hearing Reg'd., 325 Boulevard Charest, Quebec, Canada. Tel: 0000.

ST. JEAN—Mr. Maurice Jacques, Maurice Jacques, Enrg., 149 Richelieu Street, St. Jean, Quebec, Canada. Tel: 4275 and 2609.

SASKATCHEWAN

SASKATOON—Mr. Sigurd Sanda, The Sanda Laboratory, Heintzman Building, 154 Second Avenue, South, Saskatoon, Saskatchewan, Canada. Tel: 4536. REGINA—William Stonehouse, Regina Hearing Aid Centre, 820 Broder Building, Regina, Saskatchewan, Tel: 7800.





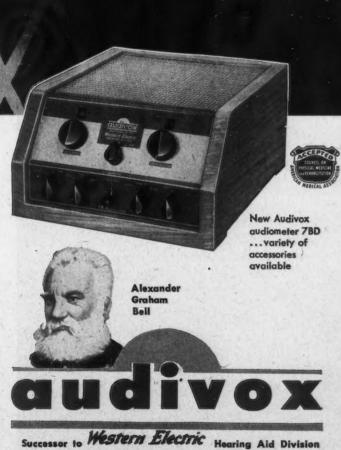
blueblood

Only a long and distinguished ancestry of champions can produce a feline blueblood.

Only **audivox** in the hearing aid field can trace an ancestry that includes both Western Electric and Bell Telephone Laboratories. **audivox** lineage springs from the pioneer experiments of Dr. Alexander Graham Bell, which were furthered by the development of the hearing aid at Bell Telephone Laboratories, and in turn, brought to fruition by Western Electric and **audivox** engineers.

Distinctly a blueblood in its field, **audivox**, successor to Western Electric Hearing Aid Division, brings the boon of better hearing, and its enrichment of living, to thousands. With the magical modern transistor, with scientific hearing measurement and scientific instrument-fitting, serviced by a nationwide network of professionally-skilled dealers, **audivox** moves forward today in a proud tradition.

TO THE DOCTOR: If you use or need an audiometer there is in every major city from coast to coast a career Audivox dealer, chosen for his integrity and ability, who will be glad to show you why an Audivox audiometer will serve you best.



123 Worcester St., Boston, Mass.

Distributed in Canada by Audivox of Canada

Suite 605, Vancouver Block, Vancouver, B. C.

the blueblood of audiometers

new clinical success¹ in lupus erythematosus

Improvement in 13 out of 15 patients

with chronic discoid lesions—"erythema subsided, infiltration and follicular plugging lessened, hypertrophy diminished—at an accelerated rate compared to previous progress" when Panthoderm Cream was added to oral massive-dose pantothenic acid and vitamin E therapy previously used alone.

Accelerated improvement in 6 out of 8 patients

was obtained in disseminated discoid lesions as compared with oral therapy alone.

Panthoderm Cream "evidenced stimulation of epithelization (most marked in hypostatic dermatitis with ulceration), and resolution of maceration, healing of fissures and excoriations (in pruritus ani et vulvae and senile vulvitis)." ... and good to excellent results in

- > atopic dermatitis and neurodermatitis
- leukoplakia and perleche
- dermatofibroma lenticulare and seborrheic kerotosis

panthoderm

irst and only topical therapy to contain pantothenylol

- · relieves itch and pain
- promotes epithelization and healing

Panthoderm Cream is widely used in dry eczema, burns, wounds, external ulcers, diaper rash, and a wide variety of other skin conditions

A clean, snow-white non-staining water-miscible cream. Minimum risk of sensitization



1 oz., 2 oz. and 16 oz. jars

1. Welsh, A. L. and Ede, M.: A.M.A. Archives Derm. & Syph., June 1954.

samples, detailed literature upon request.

u. s. vitamin corporation of canada, ltd.
Arlington-Funk Labs., division • 1452 Drummond St., Montreal, Canada

NEWS AND NOTES

(Continued from page 74 of the advertising section)

The Eighth Annual Meeting of the Canadian Dermatological Association was held in Harrison Hot Springs, B.C., on June 15. The following officers were elected for the coming year: President—Dr. Norman Wrong, Toronto. Vice-president—Dr. Jean Grandbois, Quebec City. Secretary—Dr. Birt, Winnipeg. Regional-Secretary: Dr. R. Smith, Toronto.

UROLOGY AWARD

The American Urological Association offers an annual award of \$1,000 (first prize of \$500, second prize \$300 and third prize \$200) for essays on the results of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been graduated not more than 10 years, and to men in training to become urologists.

The first prize essay will appear on the programme of the forthcoming meeting of the American Urological Association, to be held at the Biltmore Hotel, Los Angeles, California, May 16-19, 1955.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before January 1, 1955.

RESEARCH FELLOWSHIPS OF THE INTERNATIONAL CHILDREN'S CENTRE

A number of fellowships for the academic year 1954-1955 will be available for research workers who may wish to work at the laboratories of the International Children's Centre, Paris. At present the programme of research of the Centre is essentially connected with problems of anti-tuberculosis vaccination and anti-pertussis immunization.

The grants amount to 60,000 French francs per month. Travelling expenses from their residence to Paris will have to be borne by the research fellows.

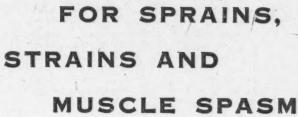
Research workers who wish to apply for a fellowship are requested to send their application together with their curriculum vitæ, record of previous work and testimonials of their chiefs of service to Professor Bugnard, International Children's Centre, Château de Longchamp, Paris 16°.

FEDERAL FUNDS AIDING FLUORIDE STUDIES AT OTTAWA UNIVERSITY

A Public Health Research Grant of \$9,725 has been approved under terms of the National Health Programme to enable studies to go ahead respecting effects of compounds of fluorine on certain components of the teeth.

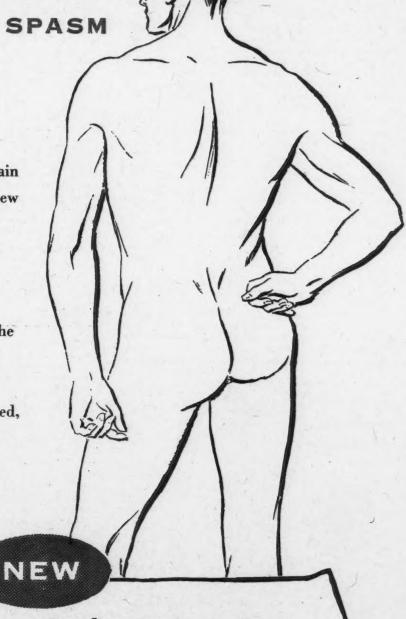
The research work will be directed by Leonard F. Belanger, Professor of Histology and Embryology of the University of Ottawa. Dr. Belanger has achieved international recognition in the use of autoradiographic techniques and has already initiated studies in this field in co-operation with the University of Tennessee's Agricultural Research Programme and with the U.S. Atomic Energy Commission at Oak Ridge, Tenn. The fluoride research techniques involve use of radioactive tracers in experimental analysis with subsequent examination of the teeth to determine the effects of the fluoride.

(Continued on page 78 of the advertising section)



RUBIGUENT

supersedes all surface applications for relief of pain by the use of the potent new penetrative agent, methyl nicotinate, in conjunction with the powerful vasodilator, histamine. Methyl nicotinate opens the way for the histamine to penetrate tissues rapidly. There it promotes prolonged, pain-relieving hyperemia, comforting analgesia and soothing warmth.



Rubiguent

TUBES OF 1 OZ.



WALKERVILLE, ONTARIO

NEWS AND NOTES

(Continued from page 76 of the advertising section)

SAMPLING TECHNIQUES

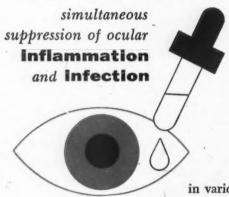
Planners of health surveys would do well to study the Planners of health surveys would do well to study the article by the Committee on Sampling Techniques in Public Health Statistics of the American Public Health Association (Am. J. Pub. Hlth., 44: 719, 1954) in which a good case is made out for extension of the use of sampling in the field of public health. The two advantages of sampling as against complete coverage of a population of people or things are economy and speed. The First International Conference of National Committees on Vital and Health Statistics also called attention (Wld Hlth Org techn Ren Ser 85: 14 1954) to the

(Wld. Hlth. Org. techn. Rep. Ser., 85: 14, 1954) to the advantages of modern sampling techniques over traditional methods of collecting and compiling health statistics, particularly in areas with limited resources.

There seems to be an unwarranted prejudice against sampling in some quarters, though the APHA Committee points out that sampling can be just as reliable as we need to make it and can afford to make it, and that of 19 sources of procedural bias and error in statistical insertions of the second se restigation only two are peculiar to sampling as opposed to complete coverage. Moreover, sampling errors can be controlled by suitable planning of the size and design of the sample, although there are other errors inherent in the study itself which changes in sampling will not

The APHA Committee discusses the disadvantages of sampling techniques. For example, sampling is of no value if an inventory is needed, or if it is necessary to break down data into many subdivisions. Further, planning a satisfactory sampling takes up time and technical skill. A warning is also given about the bias involved in the use of mail questionnaires or of volunteers. The Committee finally describes the relative advantages of probability sampling and "chunk" sampling, in which no effort is made to obtain a random sample but

which no effort is made to obtain a random sample but a chunk of the population considered representative of the whole is studied.



in various forms of conjunctivitis, keratitis, marginal ulceration and mechanical, thermal and chemical trauma

ophthalmic suspension

Dropper bottles of 5 cc. Each cc. of Neo-Cortef Drops contains: Hydrocortisone acetate......15 mg. Neomycin sulfate..... 5 mg. (equivalent to 3.5 mg. neomycin base)

Upjohn Fine pharmaceuticals since 1886

THE UPJOHN COMPANY OF CANADA 384 Adelaide Street, West, Toronto

WORLD HEALTH ASSEMBLY

By a narrow margin, the Seventh World Health Assembly adopted an increase in budget for the World Health Organization for 1955. The increase to \$9,500,000 is less than was asked for by the Director-General.

The Seventh World Health Assembly, which opened on May 4 and adjourned on May 22, was presided over by Dr. J. N. Togba of Liberia. The Eighth Assembly will be held in 1955 in Mexico City. At the present Assembly the newly created Federation of Rhodesia was unanimously admitted to the Organization as an Associate Member, replacing Southern Rhodesia.

ITALIAN WORK ON HEPARIN

Those interested in the relation of heparin to infection Those interested in the relation of heparin to infection may wish to study a series of papers by workers in Prof. Dogliotti's Clinic in Turin, Italy, printed in *Minerva Medica* (1: 985, April 11, 1954). Briefly, the work shows that heparin can prolong the stay in the circulating blood of inert particles and of injected staphylococci, though the anticoagulant does not appear to interfere with phagocytosis. The questions are raised whether heparin may facilitate septicæmic infection, or whether on the other hand it may facilitate the action of antibiotics by liberating micro-organisms from tissue foci. biotics by liberating micro-organisms from tissue foci.

DIRECTORY OF INTERNATIONAL SCIENTIFIC ORGANIZATIONS

UNESCO has just published a second edition of its Directory of International Scientific Organizations. In this revised edition, a considerable amount of detail is given on 264 organizations, and nearly one-third of the space is devoted to international medical associations and congresses. The book, which costs \$2.50 and is handled by the University of Toronto Press, is a useful and wellarranged reference volume.

' SOVIET SURGEONS ABROAD

In a recent issue of the Soviet Union journal Khururgiya (Surgery), it is interesting to read the report of the Russian delegation to the Congress of the International Society of Surgery in Lisbon in September 1953. It is particularly interesting to note the objectivity of the account of the proceedings given by the Russian author, one of a party of four surgeons who participated by reading papers. For what it is worth, the desire is clearly stated for closer contact between Soviet surgeons and those of our own group.

APPROVE NATIONAL HEALTH GRANTS FOR NOVA SCOTIA

Nova Scotia's health services will receive grants under the National Health Programme. A Child and Maternal Health Grant of \$6,605 will assist Nova Scotia in setting up a Division of Child and Maternal Health, contributing to salaries of a director to organize and carry out the province's programme in this field, and of a nurse, who will act as supervisor and as consultant to public health nurses and local hospitals in relation to these activities.

Nova Scotia also receives a federal Mental Health Grant of \$2,000 which will provide assistance towards short courses for mental health personnel.

(Continued on page 80 of the advertising section)

For sure reversal of dangerously prolonged Prothrombin Time



MEPHYTON is the first fast-acting and unfailing antagonist for hypoprothrombinemia induced by Dicumarol® and other anticoagulants of this type. It has not been known to produce side effects when given as recommended. The action of MEPHYTON is detectable within minutes, and bleeding usually is terminated within 3 hours. Hypoprothrombinemia is reversed completely within 4 to 12 hours.

Literature on request

EMULSION OF

MEPHYTON

(Trade-mark)
(EMULSION OF
VITAMIN K₁, Merck)

Research and Production for the Nation's Health



MERCK & CO. LIMITED

Manufacturing Chemists

MONTREAL . TORONTO . VANCOUVER . VALLEYFIELD

NEWS AND NOTES

(Continued from page 78 of the advertising section)

COMPLETE NATIONAL SURVEY ON AVERAGE HEIGHTS AND WEIGHTS

Interesting and long-awaited facts based on an exhaustive survey of the average weights for different heights and age groups, are to be revealed shortly with the release of results of the Canadian Weight-Height Survey, conducted by the Nutrition Division of the Department of National Health and Welfare.

The survey, involving the co-operation of some 22,000 people from coast to coast, has been completed and final compilations of the results are being made. Tables, which will be invaluable in many phases of Canadian life, will be released soon.

It was noted that the figures obtained are average weights and do not necessarily represent ideal or normal weights. They will, however, give every Canadian a chance to compare his weight with other citizens of the same age and, within limitations, will be a useful guide in many ways,

The need for such tables has long been felt by public health and medical authorities. Tables now in general use were derived from selected groups, such as applicants for insurance, mostly in the United States, and from records many years old. Accurate weight-height statistics are a fundamental piece of information which will be available to the physician giving advice on weight control and to school health authorities and others observing the growth of children. Further, in the event of a national emergency, such information could be used to govern allocation of food supplies. It is believed that the Canadian survey is the first ever undertaken on such a scientific scale, and that nothing of like national scope had previously been attempted anywhere in the world. The project, which began in March 1953, was completed, as far as field work was concerned, in October last year. It covered all regions of Canada and, in addition to heavily-populated areas, many remote and practically inaccessible localities were visited by workers engaged in measuring and weighing the thousands of citizens who co-operated in the survey.

The Canadian Weight-Height project was approved by the joint FAO/WHO expert committee on nutrition and by other international bodies. It was directed by Dr. L. B. Pett of the Nutrition Division, Department of National Health and Welfare, with Mr. G. F. Ogilvie, head of that division's clinical laboratory, as assistant director. The task of drawing up a national sample on which to conduct the survey was done by the Dominion Bureau of Statistics, which made its selection by the most scientific methods and the actual field work was carried out by the staff of the Nutrition Division, with co-operation everywhere of local health and educational authorities, employers and a great body of private citizens. The field workers used special scales, a measuring rod and a skinfold caliper. Skinfold measurements are not reflected in the tables shortly to be announced, but statistics obtained will be valuable in later related studies in this field.

It is expected that the weight-height tables will be widely distributed and will eventually replace those now in use in Canada. It will be seen whether they differ markedly from older tables, but, regardless of any difference, the sound statistical background of the new data will give Canada a more realistic approach to the study of growth and weight control.

Officials of the Department of National Health and Welfare emphasized that the entire survey was carried out without expenditure of public funds other than those provided for the department's regular work. No special enumerators were employed, the field work being done entirely by the staff of the Nutrition Division as a survey project in line with that Division's normal operations.

A HOSPITAL AT WORK

The U.K. Ministry of Health urged in a report last year that hospitals should improve the facilities for the reception and welfare of patients and, among other suggested measures, emphasis was laid upon the giving of information about routine. The Middlesex Hospital, London, England, have followed up this suggestion and they publish today an attractive illustrated account of the daily work of a modern hospital.

From the early pictures called "The Day Begins," with the arrival of the milk, the morning papers, and flowers from Covent Garden, the reader is the onlooker at various departments, medical and administrative while

From the early pictures called "The Day Begins," with the arrival of the milk, the morning papers, and flowers from Covent Garden, the reader is the onlooker at various departments, medical and administrative, while the large body of men and women who make up the staff get on with their daily jobs. From the dramatic story of Mrs. Bird's hæmorrhage to the operation on a "blue baby" the prospective patient will gain a quiet confidence in the facilities available for emergencies.

The routine management of Mr. Alexander's gastric

The routine management of Mr. Alexander's gastric ulcer begins with the receptionist giving a friendly welcome and ends with the patient returning from the hospital's convalescent home. Less well known sides of the work of the hospital are shown in, for example, the tablet-making machine, the large array of biscuit tins in the store-room, and the generators for electro-medical apparatus. And so to evening, with a picture of a committee at work, and at midnight the cleaners taking the only opportunity available for cleaning a main corridor.

mittee at work, and at midnight the cleaners taking the only opportunity available for cleaning a main corridor. As Colonel J. J. Astor, chairman of the Board of Governors of the Middlesex Hospital, says in an introduction, the object is to add "to the ordinary person's understanding of what doctors and nurses, here and elsewhere, are trying to do for those who are in their care."—(From *The Times*, London, Eng.)

AMENDED FOOD AND DRUG ACT BECOMES EFFECTIVE

Revised federal regulations relating to the safety, purity and quality, as well as the labelling and advertising, of all foods, drugs, therapeutic devices and cosmetics, came into effect on July 1, by virtue of proclamation of Amendments to the Food and Drugs Act,

The new Regulations are designed to clarify interpretation of the Act and to arrange it in more logical and rational order, to confer additional powers on Food and Drug authorities in their work of protecting public health and to ensure safe conditions of processing and record-

ing of sale of foods and drugs.

The Food and Drugs Act, now amended, had its origin in the Adulteration Act which became effective in Canada on January 1, 1875. It has been under constant review over the years and has been revised on several occasions, the last extensive amendments having been made in 1949. The present changes are the result of a study carried out by a committee of officers of the Food and Drug Divisions and the Legal Division of the Department of National Health and Welfare, which administers the Act and applies the Regulations. The amendment to the Act was passed by Parliament in 1953 and necessary changes have now been incorporated in the Regulations.

"Sport imposes an intermittent stress which increases the capacity of the body for severe exercise. There is little evidence that any permanent harm can result from severe exertion. The study of exercise provides a rich field for the physiologist because so many facets of the bodily mechanism are integrated in the adaptation which ensues. In the future, animal experiments may help to shed valuable light on the part played by the endocrine glands during severe exercise. At present, however, it is probably unwise to attempt to draw any close parallel between the stress which occurs in sport and the stress which Selyé (1946) has suggested may be a common feeture of several different diseases."—Roger Bannister, The Practitioner, 172: 67, 1954.

Business Report

THE EIGHTY-SEVENTH ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION, HELD IN VANCOUVER

June 14, 15, 16, 17, 18, 1954

THE EIGHTY-SEVENTH ANNUAL MEETING of the Canadian Medical Association was held in the Hotel Vancouver, Vancouver, on June 14, 15, 16, 17 and 18, 1954. The registration totalled 2,266 including 1,746 members and 520 ladies. This is the second largest registration at an Annual Meeting in the history of the Association, being surpassed only in Toronto in 1948 when the total registration was 2,330.

THE ANNUAL GENERAL MEETING

The Annual General Meeting was held on Wednesday evening June 16, in the Banquet Room of the Hotel Vancouver with Dr. Charles W. Burns, President of the Association, presiding. In the presence of a large assembly of members and guests, Senior Membership was conferred on the following:

Dr. J. H. MacDermot, Vancouver, B.C.; Dr. H. Spohn, Vancouver, B.C.; Dr. J. W. Richardson, Calgary, Alta.; Dr. W. A. Chestnut, Moosomin, Sask.; Dr. Murdoch MacKay, Transcona, Man.

Senior Memberships were also conferred on a number of other members in absentia. These were:

Dr. G. E. McCartney, Fort William, Ont.; Dr. Joseph E. Beaudet, Thetford Mines, Que.; Dr. B. A. Puddington, Grand Falls, N.B.; Dr. C. S. Morton, Halifax, N.S.; Dr. A. A. MacDonald, Souris, P.E.I.; Dr. Thomas Anderson, St. John's, Nfld.

Fraternal greetings from the British Medical Association were presented by the official delegates, Dr. R. Hale-White of London, and Mr. S. A. S. Malkin of Nottingham; and from the American Medical Association by Dr. C. C. Sturgis of Ann Arbor, Michigan. The following guest speakers were present and were introduced to the Meeting: Sir Howard Florey of Oxford, England, who gave the Lister Lecture, and Dr. C. C. Sturgis, Ann Arbor, Michigan. Other guest speakers not able to be present for the occasion included Dr. Bayard Carter, Durham, N.C., and Dr. Merl I. Carson, Los Angeles, California.

Dr. Merl J. Carson, Los Angeles, California.

The incoming President, Dr. G. F. Strong, was properly introduced and installed in the office of the President of the Canadian Medical Association by Dr. Charles W. Burns, Dr. Strong, in a brief address, pledged his support and energy to the Canadian Medical Association and thanked the members of the British Columbia Division for the honour they had conferred on him in nominating him to the Presidency.

Dr. Norman H. Gosse, Chairman of General Council, paid fitting tribute to the career and accomplishments of Dr. T. C. Routley who, for thirty-one years was General Secretary of the Canadian Medical Association and who retired from his position two days previously on June 14, 1954. Dr. G. F. Strong presented Dr. and Mrs. Routley with a silver tea service as a small token of the esteem and appreciation of the Association for Dr. Routley's tireless efforts on

behalf of the Association during his term as

General Secretary.

Following the Annual General Meeting, the President held a reception in the Social Suite Lounge of the Hotel Vancouver.

GENERAL COUNCIL

The General Council met in the Hotel Vancouver on June 14 in day and evening sessions and in day sessions during June 15. The Chairman, Dr. Norman H. Gosse presided. The following 118 delegates or alternates answered the roll call:

lowing 118 delegates or alternates answered the roll call:

Drs. G. Harvey Agnew, Toronto, Ont.; H. J. Alexander, Vernon, B.C.; J. F. C. Anderson, Saskatoon, Sask.; R. C. Anderson, Regina, Sask.; Walter S. Anderson, Edmonton, Alberta; G. Baggs, Corner Brook, Nfld.; A. W. Bagnall, Vancouver, B.C.; L. G. Bell, Winnipeg, Man.; Wm. Bramley-Moore, Edmonton, Alta.; Stanley Brown, Granby, P.Q.; John Burke, Grand Bank, Nfld.; C. W. Burns, Winnipeg, Man.; R. C. Burr, Kingston, Ont.; G. D. W. Cameron, Ottawa, Ont.; W. C. Campbell, Medicine Hat, Alta.; Gordon A. Copping, Montreal, Que.; J. C. C. Dawson, Peterborough, Ont.; George Dewar, Bedeque, P.E.I.; R. C. Dickson, Toronto, Ont.; E. F. Donald, Edmonton, Alta.; M. S. Douglas, Windsor, Ont.; H. T. Ewart, Hamilton, Ont.; Gordon S. Fahrni, Vancouver, B.C.; W. R. Feasby, Toronto, Ont.; G. C. Ferguson, Port Arthur, Ont.; G. G. Ferguson, Vancouver, B.C.; T. L. Fisher, Ottawa, Ont.; F. W. Fitzgerald, Lachute, Que.; P. O'D. Gallagher, St. John's, Nfld.; J. A. Ganshorn, Vancouver, B.C.; C. L. Gass, Sackville, N.B.; Léon Gérin-Lajoie, Montreal, P.Q.; S. S. B. Gilder, Montreal, Que.; A. M. Goodwin, Winnipeg, Man.; Norman H. Gosse, Halifax, N.S.; Arthur A. Haig, Lethbridge, Alta.; G. W. Halpenny, Montreal, Que.; M. C. Harvey, Kitchener, Ont.; D. A. Harvie, Collingwood, Ont.; Irwin M. Hilliard, Toronto, Ont.; J. E. Hudson, Hamiota, Man.; G. C. Johnston, Vancouver, B.C.; W. V. Johnston, Toronto, Ont.; A. D. Kelly, Toronto, Ont.; H. G. Kelly, Kingston, Ont.; M. O. Klotz, Ottawa, Ont.; H. G. Kelly, Kingston, Ont.; M. O. Klotz, Ottawa, Ont.; H. G. Kelly, Kingston, Ont.; M. O. Leamington, Ont.; J. H. Maloney, Charlottetown, P.E.I.; R. H. Malyon, Toronto, Ont.; S. Marcus, Bridgewater, N.S.; W. E. Martin, Toronto, Ont.; E. S. Mills, Montreal, Que.; R. M. Mitchell, Sudbury, Ont.; M. C. Mooney, Farnham, Que.; H. V. Morgan, Calgary, Alta.; E. C. McCoy, Vancouver, B.C.; H. E. MacDermot, Montreal, Que.; M. T. Macfarlottetown, P.E.I.; R. Macneil, Glace Bay, N.S.; H. L. McNicol, Flin Flon, Man.;

fort, Three Rivers, Que.; T. C. Routley, Toronto, Ont.; G. I. Sawyer, Toronto, Ont.; S. M. Schmaltz, Lethbridge, Alta.; W. deM. Scriver, Montreal, Que.; L. J. Shepley, Chatham, Ont.; G. F. Skinner, Saint John, N.B.; F. H. Smith, Winnipeg, Man.; Armand H. Sormany, Edmundston, N.B.; J. F. Sparling, New Westminster, B.C.; Murray Stalker, Ormstown, Que.; C. B. Stewart, Halifax, N.S.; C. B. Stewart, Winnipeg, Man.; G. F. Strong, Vancouver, B.C.; L. J. Sutherland, Owen Sound, Ont.; R. K. Thomson, Edmonton, Alta.; C. L. Tisdale, Prince Albert, Sask.; W. F. Tisdale, Winnipeg, Man.; M. G. Tompkins, Sr., Glace Bay, N.S.; W. B. Tufts, Outlook, Sask.; A. Turnbull, Vancouver, B.C.; F. A. Turnbull, Vancouver, B.C.; F. A. Turnbull, Vancouver, B.C.; F. A. F. VanWart, Fredericton, N.B.; John A. Walsh, Manuels, Nfld.; F. D. Wanamaker, Saint John, N.B.; R. Vance Ward, Westmount, P.Q.; W. P. Warner, Ottawa, Ont.; C. M. Warren, Toronto, Ont.; M. M. Weaver, Vancouver, B.C.; F. E. Werthenbach, Unity, Sask.; R. W. Whetter, Steinbach, Man.; Lorne Whitaker, St. Catharines, Ont.; F. L. Whitehead, East Riverside, N.B.; G. Earle Wight, Montreal, Que.; F. H. Wigmore, Moose Jaw, Sask.; Wallace Wilson, Vancouver, B.C.; E. F. Woolverton, Woodstock, N.B.; M. A. R. Young, Lamont, Alta.

Dr. Gosse welcomed the members to the

Dr. Gosse welcomed the members to the Parliament of the Canadian Medical Association on this, the occasion of the 87th Annual Meeting of the Association, and gave a special welcome to the new members of General Council and those alternates who were attending Council sessions for the first time. The Chairman welcomed to the meeting Dr. George Lull of the American Medical Association. Addressing the assembly briefly, Dr. Lull brought greetings from the sister Association in the United States. The President-Elect, Dr. G. F. Strong, welcomed the members to this meeting in Vancouver, He stated that Dr. H. Rocke Robertson, Chairman of the Local Programme Committee was to be congratulated on the programme which had been arranged. He also commended the TV programme to the members.

The Chairman advised that the suggestion had been made that a Committee on Resolutions be set up. Such a Committee should facilitate the work of Council in several ways. Resolutions could be referred to it for proper wording, and errors or misinterpretations could be avoided through the work of such a Committee.

Moved by Dr. F. L. Whitehead, seconded by Dr. R. M. Parsons,

THAT a Committee on Resolutions be appointed by the Chair.

Accordingly, the Chairman named a Committee on Resolutions composed of Dr. Wallace Wilson (Chairman), Dr. H. T. Ewart, Dr. C. L. Gass, Dr. R. V. Ward and Dr. T. C. Routley, with the right of the Chairman to name substitutes in the absence of its members and with the power to add.

REPORT OF THE COMMITTEE ON ARCHIVES

Mr. Chairman and Members of General Council:

1. Your Committee reports with deep regret the loss of the following members by death during the past year:

Drs. David L. Abrams, Vancouver, B.C.; Egon Aderer, Toronto, Ont.; A. H. Baker, Nanaimo, B.C. (Life Member of Alberta Division); Gerald Baker, Quesnel, B.C. (Senior Member, C.M.A.); D. J. Barclay, Golden, B.C.; John Beaton, Blackville, N.B.; Maurice Bonnier, Montreal, Que.; F. H. Bowen, London, Ont.; L. W. Brigham, Star City, Sask. (Life Member of Saskatchewan Division); J. S. Burris, Kamloops, B.C.; H. C. Burroughs, Swift Current, Sask. (Life Member of Sask. Division); I. B. Cameron, Kamloops, B.C.; W. LeM. Carter, Quebec, Que.; F. R. Chown, St. Boniface, Man.; R. A. Claassen, East St. Paul, Man.; Wm. Clarke, New Westminster, B.C.; Harry A. Collins, London, Ont.; J. H. Conroy, Edmonton, Alta.; F. H. Coppock, Eckville, Alta.; John R. Davies, Vancouver, B.C.; Isabel Day, Vancouver, B.C.; J. A. Stewart Dorrance, Kingston, Ont.; T. D. Farmer, Town of Mount Royal, P.Q.; C. P. Fenwick, Montreal, Que.; H. J. Ferrier, Fort William, Ont.; D. George P. Fortier, Edmonton, Alta.; W. F. Gallow, Carleian, Ont. M. M. Griera, W. F. Gallow, Carleian, Ont. M. M. Griera, W. F. Gallow, Carleian, Ont. M. M. Griera, W. M. S. Carleian, Ont. M. M. S. Carle Farmer, Town of Mount Royal, P.Q.; C. P. Fenwick, Montreal, Que.; H. J. Ferrier, Fort William, Ont.; D. George P. Fortier, Edmonton, Alta.; W. F. Gallow, Goderich, Ont.; Wm. Geiger, Waterloo, Ont.; J. A. Glancy, Toronto, Ont.; James C. Goodwin, Toronto, Ont.; H. G. Grant, Halifax, N.S. (Secretary, Nova Scotia Division); F. W. Green, Cranbrook, B.C.; L. Groleau, Sherbrooke, Que.; D. R. Hall, Napanee, Ont.; Norman MacL. 'Harris, Ottawa, Ont. (Senior Member, C.M.A.); W. L. Higginson, Pembroke, Ont.; Huxley H. C. Johnson, Jr., Calgary, Alta.; J. P. Johnston, Edmonton, Alta. (Life Member of Alberta Division); T. M. Jones, Victoria, B.C.; A. H. N. Kennedy, MacLeod, Alta. (Life Member of Alberta Division); F. T. Kennedy, Sussex, N.B.; R. H. Kinsman, Toronto, Ont.; J. H. Lapointe, Ottawa, Ont.; P. E. Lavoie, Meadow Lake, Sask.; George H. Lee, Vancouver, B.C.; H. J. Mack, Cornwall, Ont.; A. E. Macintosh, Amherst, N.S.; C. F. Martin, Montreal, Que. (Senior Member and Past-President, C.M.A.); H. W. Martin, Hamilton, Ont.; D. G. B. Mathias, New Westminster, B.C.; A. W. MacBeth, Edmonton, Alta.; John M. McEachern, Winnipeg, Man.; O. J. McFadyen, Oyen, Alta.; D. C. McFarlane, London, Ont.; T. P. McGowan, Calgary, Alta.; I. R. McKendry, Melfort, Sask.; C. R. McKishnie, Dutton, Ont.; W. J. McLean, Shelburne, Ont.; D. F. MacLellan, New Glasgow, N.S.; Gurth O'Brien, Grande Prairie, Alta.; J. E. O'Donnell, Fort Frances, Ont.; D. J. O'Regan, St. John's, Nfld.; F. S. Park, Toronto, Ont.; Gordon G. Phillips, Montreal, Que.; Frederick Pilcher, Calgary, Alta.; Life Member of Alberta Division); H. M. Robertson, Victoria, B.C. (Senior Member, C.M.A.); Harry E. Robinson, Toronto, Ont.; E. Particia Wilford, Toronto, Ont.; E. E. Topliff, Trail, B.C.; J. Leslie Uren, Toronto, Ont.; E. E. Topliff, Trail, B.C.; J. Leslie Uren, Toronto, Ont.; E. Patricia Wilford, Toronto, Ont.; J. P. F. Williams, Toronto, Ont.; Donald B. Wilson, Grande Prairie, Alta.; F. D. Wilson, Calgary, Alta. (Life Member of Alberta Division); Frank Woodman, Westlock, Alta

All of which is respectfully submitted.

H. E. MacDERMOT, Chairman. Adopted.

A minute of silence was observed out of respect to the memory of these members of the Association who had expired since the last Annual Meeting.

On a motion of Dr. J. F. C. Anderson, seconded by Dr. H. T. Ewart, the General Council resolved itself into a Committee of the Whole for the consideration of the Report of the Executive Committee. Dr. F. A. Turnbull was elected Chairman of the Committee of the Whole and assumed the Chair.

Adopted.

REPORT OF THE EXECUTIVE COMMITTEE

Mr. Chairman and Members of General Council:

2. Since the last Annual Meeting, the Executive Committee has met on four occasions, in Winnipeg, in Halifax, in Toronto and in Vancouver. The attendance of members of the Committee and their attention to the business of the Association has been faithful and conscientious. In this report will be found a summary of the more important matters considered by the Committee.

Adopted.

CENTENARY OF THE NOVA SCOTIA DIVISION

3. It was a matter of gratification to your Executive that it was able to recognize this unique event in our medical history by holding its fall meeting in Halifax concurrently with the Centenary meeting of the Nova Scotia Division. Our President, Dr. Burns conveyed the greetings of the Association and Dalhousie University at a Special Centenary Convocation, conferred on our General Secretary, Dr. T. C. Routley, the degree of LL.D. honoris causa.

Adopted.

Message from Her Majesty Queen Elizabeth II

4. It will be remembered that at our last Annual Meeting a message of fealty and loyalty was sent to Queen Elizabeth II on the occasion of her Coronation. The following letter was received from Buckingham Palace in response to that message:

Buckingham Palace, 3rd July, 1953.

Dear Sir.

I am commanded to convey to you and to all those on whose behalf you wrote an expression of The Queen's thanks for your kind and loyal message on the occasion of Her Majesty's Coronation.

Yours truly, (Signed) Edward Ford.

The General Secretary,
The Canadian Medical Association,
135 St. Clair Avenue West,
Toronto, Ontario.

Adopted.

Adopted.

ANNUAL MEETINGS

5. The Eighty-sixth Annual Meeting held in Winnipeg, June 15 to 19, 1953, proved, in the capable hands of our colleagues of the Manitoba Division, a most successful event. The registration of 1,432 persons, members and ladies, was recorded. The meeting of the General Council on Monday and Tuesday, June 15 and 16, was attended by 113 delegates and a full agenda of business was transacted. A diversified programme of scientific presentations appealed to capacity audiences at all sessions. The highlight of medical week in Winnipeg was the installation of Dr. Charles W. Burns as President of the Canadian Medical Association, An outstanding feature of entertainment, long to be remembered, was the gala performance of the Royal Winnipeg Ballet. An innovation which proved highly successful was the establishment of a Press Room where interviews were arranged with committee chairmen and other speakers to amplify for the representation of the press, material which had been prepared in advance. To Dr. and Mrs. Burns and to their local committee the thanks of the Association are due for the excellence of the arrangements.

6. We approach the Eighty-seventh Annual Meeting at Vancouver in the full assurance that under the able leadership of Dr. and Mrs. G. F. Strong, the committee of the British Columbia Division has prepared well for our instruction and our enjoyment. This year the scientific programme will extend a full five days, the first half in Colour Television through the courtesy of

Smith, Kline & French, Montreal, with the remainder

in the more conventional appearances of speakers in person. Although it is invidious to single out from a large group of willing workers individuals for special mention, the efforts of Dr. J. F. McCreary in Television, Dr. H. Rocke Roberston in relation to the scientific programme, Dr. G. R. F. Elliott in general arrangements and Dr. G. G. Ferguson in his Secretarial capacity, have been so outstanding that they deserve our particular thanks.

7. Preparations for the One Hundred and Twenty-third Annual Meeting of the British Medical Association, the Eighty-eighth Annual Meeting of this Association and the Seventy-fifth Annual Meeting of the Ontario Division, to be held conjointly in Toronto commencing Monday, June 20, 1955, are already well advanced. The opportunity for Canadians to play hosts to their colleagues of the British Medical Association arises so infrequently that the event is a landmark in our affairs. The pattern of this meeting will follow closely that established by the British Medical Association and the sessions will be jointly staffed from both sides of the Atlantic. It is our hope that a large number of B.M.A. members will find it possible to attend. It is a pleasure to report that Dr. T. C. Routley has been elected President-elect of the British Medical Association and that he will be installed in the office of President at the 1955 meeting.

8. In order that the members of this General Council may be able to participate fully in the events of B.M.A. week, your Executive Committee recommends that the regular meeting of General Council be scheduled for Friday and Saturday, June 17 and 18, 1955. The schedule of events would then take the following form:

British Commonwealth Medical Conference –
June 14 to 16.

General Council, C.M.A.—June 17 and 18. B.M.A., C.M.A., O.M.A. meeting—June 20 to 24.

9. Future Annual Meetings of the Canadian Medical Association are projected for the following four years as follows: 1956 Quebec, 1957 Regina, 1958 Atlantic Provinces, 1959 United Kingdom. This latter meeting will be held in conjunction with the British Medical Association at a location to be determined. This will represent the first occasion that the C.M.A. has met in the United Kingdom but not the first time an Annual Meeting has been held outside Canada. The Sixty-sixth Annual Meeting was held with the American Medical Association in 1935 at Atlantic City. Your Executive Committee has extended an invitation to the British Medical Association to nominate the President of the Canadian Medical Association who will assume office in 1959.

Adopted.

MEMBERSHIP

10. The following is a comparative statement of membership for the calendar year 1953, and for the year 1954 as at May 1:

2002 00 00 0000		
Province	1953	1954
British Columbia	1,012	921
Alberta	1,028	940
Saskatchewan	808	626
Manitoba	753	674
Ontario	4,067	3,957
Quebec	945	960
New Brunswick	386	374
Nova Scotia	434	383
Prince Edward Island	71	. 83
Newfoundland	107	76
North West Territories	4	2
Members-at-Large	13	12
Military membership	96	84
Totals	9,724	9,092
	1	Adopted.

FRATERNAL DELEGATES

We are happy to welcome to this meeting as fraternal delegates from sister national medical associations, the following:

Dr. R. Hale-White, M.C., of London, Member of the Council of the British Medical Association, Vice-Chairman of the Fellowship for Freedom in Medicine, an official delegate of the British Medi-

2. Mr. S. A. S. Malkin, C.B.E., F.R.C.S., of Notting-ham, recently President of the British Orthopædic Association and an official delegate of the British Medical Association.

 Dr. C. C. Sturgis, Ann Arbor, Director of the Thomas Henry Simpson Memorial Institute for Medical Research, Professor of Internal Medicine, University of Michigan, official delegate of the American Medical Association.

Adopted.

THE LISTER LECTURE

On the recommendation of the Local Programme Committee, the Committee on Awards, Scholarships and Lectures has invited Sir Howard Florey, Professor of

Lectures has invited Sir Howard Florey, Professor of Pathology in the University of Oxford to present the Lister Lecture this year.

It is a particular pleasure to welcome a man who has made such contributions to experimental pathology and whose work with antibacterial substances, notably penicillin, has changed the whole approach to the treatment of infections. His Lister Lecture on "The Chemotherapy of Tuberculosis" will be presented at the opening General Session of the meeting.

Adopted.

Adopted.

DIVISIONAL ANNUAL MEETINGS 1953

The following schedule records the Annual Meetings of the Divisions for the calendar year, 1953.

May 8 and 9-Quebec Division, Montebello.

May 11 - 15-Ontario Division, Toronto.

June 15 - 19-Manitoba Division, Winnipeg (joint meeting with C.M.A.).

August 25 - 28-Saskatchewan Division, Waskesiu. August 31 and Sept. 1-Prince Edward Island Division, Charlottetown.

Sept. 3 - 5-Newfoundland Division, St. John's.

Sept. 6 - 9-New Brunswick Division, St. Andrews. Sept. 21 - 25-British Columbia Division, Vanconver.

Sept. 28 - Oct. 2-Alberta Division, Edmonton.

Oct. 6 - 9-Nova Scotia Division, Halifax.

Oct. 15 and 16-Business Meeting, Manitoba Division, Winnipeg.

It is worthy of note and commendation, that our President, Dr. Burns, accompanied by Mrs. Burns and several teams of travelling speakers, attended each of the Divisional Meetings held after his installation. While it is an inspiring and pleasant experience for our President to take part in such a series of gatherings of the pro-fession, it makes large demands on his time and his physical resources and this General Council will doubt-less desire to record its thanks to Dr. Burns for the way he has sustained the fine tradition set by his predecessors in office.

Adopted.

DIVISIONAL ANNUAL MEETINGS 1954

14. The projected schedule of Divisional Annual Meetings for the current year is as follows:

May 7 and 8-Quebec Division, Three Rivers.

May 10 - 14-Ontario Division, Toronto.

June 14-18-B.C. Division, Vancouver (joint meeting with C.M.A.).

Aug. 29 - Sept. 1-New Brunswick Division, St.

Sept. 3 and 4—Prince Edward Island Division, Charlottetown.

Sept. 6 - 9-Nova Scotia Division, Sydney.

Sept. 9-11-Newfoundland Division, St. John's. Sept. 24 and 25-British Columbia Division (Business Meeting) Penticton.

Sept. 27 - 30-Alberta Division, Calgary.

Oct. 5-7-Saskatchewan Division, Saskatoon.

Oct. 12 - 14-Manitoba Division, Winnipeg.

SENIOR MEMBERS

In accordance with the provisions of Chapter VI

15. In accordance with the provisions of Chapter VI i(c) of the By-laws, the following members were nominated by their respective Divisions and have been elected to Senior Membership in this Association:

British Columbia—Dr. J. H. MacDermot, Vancouver; Dr. A. Howard Spohn, Vancouver. Alberta—Dr. J. W. Richardson, Calgary. Saskatchewan—Dr. W. A. Chestnut, Moosomin. Manitoba—Dr. Murdoch MacKay, Transcona. Ontario—Dr. G. E. McCartney, Fort William. Quebec—Dr. Joseph E. Beaudet, Thetford Mines. New Brunswick—Dr. B. A. Puddington, Grand

New Brunswick—Dr. B. A. Puddington, Grand Falls. Nova Scotia—Dr. C. S. Morton, Halifax. Prince Edward Island—Dr. A. A. MacDonald,

Souris.

Newfoundland-Dr. Thomas Anderson, St. John's Certificates and badges of Senior Membership will be conferred by the President at the Annual General Meeting on Wednesday, June 16.

Adopted.

By-Laws of the Association

16. In view of the major revision of the By-laws which was undertaken in 1953 and approved at the last Annual Meeting, it was the decision of your Executive Committee that their operation should be observed before committing them to print in booklet form. The new By-laws have proved to be generally satisfactory for the government of the affairs of the Association but a few minor inconsistencies and ambiguities have been revealed. It is proposed that a period of further study be undertaken before requesting the Committee on By-laws to recommend amendments to remedy the defects noted.

Adopted.

AFFILIATIONS

17. A very significant provision of the current By-laws of the Association relates to Affiliated Societies. Under the terms of Chapter VII, two types of affiliates are recognized:

(a) Canadian Medical Specialist Societies which, on approval of an application for affiliation, are en-titled to be represented by one seat on this Gen-eral Council.

(b) Other National and International Associations of a medical, scientific or sociological nature, which on approval of application for affiliation, are not necessarily entitled to representation on this General Council.

18. The applications of the following organizations for affiliation with the Canadian Medical Association have been received, scrutinized by the Executive Committee and the Committee on By-laws, and are recommended for admission to affiliate status under the terms of VII i(a):

Canadian Academy of Allergy. Canadian Anæsthetists' Society.

Canadian Medical Protective Association. Canadian Otolaryngological Society.

Canadian Psychiatric Association. Royal College of Physicians and Surgeons of Canada.

Adopted.

under the terms of VII i(b):
Canadian Arthritis and Rheumatism Society.
Canadian Cancer Society.
Canadian Mental Health Association. Canadian Tuberculosis Association.

Health League of Canada.

Priory in Canada of the Grand Priory in the
British Realm of the Venerable Order of the
Hospital of St. John of Jerusalem.

Victorian Order of Nurses for Canada.

19. In addition to the societies listed above, a number of others have indicated interest in affiliation but await a meeting of the competent authority before submitting a formal application.

The question was raised as to whether there would be any possibility of the Canadian Medical Association being implicated in a law suit in which an affiliated society might become involved.

Moved by Dr. H. V. Morgan, seconded by Dr. J. F. C. Anderson,

THAT the Executive Committee seek legal advice to ascertain whether the C.M.A. could be impli-cated in any law suit in which an affiliated society might become involved. *Carried*. Adopted.

MEETINGS OF NATIONAL COMMITTEES

20. In an endeavour to co-ordinate the efforts of our national committees and to minimize the geographic difficulties which beset us, your Executive Committee has authorized the expenditure of funds to bring together the following groups: the Committee on Economics, two meetings; the Secretaries of the Divisions; the Committee on Public Relations and the Committee on Approval of Hospitals for Internship. In addition the on Approval of Hospitals for Internship. In addition, the meetings of the Organizing Committee for the College of General Practice of Canada and the attendance of the C.M.A. representatives on the Canadian Commission on Hospital Accreditation have been underwritten.

21. There is little doubt that the benefits of such meetings so far outweigh the attempt to conduct business by correspondence that the method should be continued and extended. It is possible that it might be advantageous to concentrate several such meetings in a midwinter week at a central point and, with the concurrence of General Council, this will be explored.

Adopted.

REHABILITATION

Despite the fact that the Canadian Medical As-Sociation has been represented on the National Advisory Committee on the Rehabilitation of Disabled Persons by Dr. H. Hoyle Campbell, it is the view of your Executive Committee that the Association has not been Executive Committee that the Association has not been sufficiently active in supporting the efforts of our representative in this important field which has been termed the Third Phase of Medicine. Two additional factors underline the need for greater interest and attention to the medical aspects of rehabilitation. The first is that the Rehabilitation Grant made available for the first time under the National Health Grant Programme one year ago has not been utilized by any province to any appreciable extent. This suggests among other things that provincial Departments of Health require guidance in the proper expenditure of the funds which will be doubled in amount for the fiscal year 1954-55. The other factor is the announced intention of the Government of Canada to enact legislation for the provision of pensions for permanently and totally disabled persons. It is obvious that the establishment of a state of permanent and total disability should not be made until the available resources of rehabilitation have been exhausted. These considerations have impelled your Executive Committee to set up under the Chairmanship of Dr. A. T. Jousse, a Special Committee on Rehabilitation to advise

our representative on the National Advisory Committee on the Rehabilitation of Disabled Persons, and to recommend to the Association what active steps should be taken by the medical profession. The growing importance of Rehabilitation makes it likely that a Standing Committee should shortly be set up and that similar action should be recommended to the Divisions.

The importance of renewed attention to the medi-The importance of renewed attention to the medical aspects of rehabilitation was stressed by several speakers and reference was made to Bill 462 (Disabled Persons Act) which has recently been passed by the current session of Parliament. This legislation authorizes an allowance of \$40.00 a month to be paid to needy persons eighteen years of age and over who are permanently and totally disabled.

THE COLLEGE OF GENERAL PRACTICE OF CANADA

23. At the last Annual Meeting, General Council received and approved the report of an Exploratory Committee on Accreditation of General Practitioners. Arising out of a general discussion of this report the following resolution was passed:

THAT this General Council authorize the Section on General Practice to recommend to the Executive Organizing Committee to proceed with the estab-lishment of a College of General Practitioners and to establish standards of membership, by-laws, etc. and to do all other things necessary to achieve this end.

24. Subsequently, on the recommendation of the Section of General Practice, the Executive Committee appointed the following to the Organizing Committee: Dr. M. R. Stalker, Dr. J. H. Black, Dr. G. I. Sawyer, Dr. C. L. Gass, Dr. W. V. Johnston and Dr. Armand Rioux. Subsequently, on nomination of the Association of Canadian Medical Colleges, Dr. J. Wendell Macleod was added to the committee. was added to the committee.

25. A budget of \$3,600 was placed at the disposal of the Organizing Committee to finance its operations up to the time of the enrolment of members by the College. The Organizing Committee has met as a working party on three occasions, October 16 and 17, 1953, November 28 and 29, 1953 and January 15 and 16, 1954. Reports on the progress of organization have been made regularly to the Executive Committee by Dr. C. L. Gass and the profession has been kept informed through the columns of the Journal. On March 1, 1954, applications for membership in the College of General Practice of Canada were invited and Dr. W. V. Johnston assumed the approximant of Fracutive Director. the appointment of Executive Director.

26. To assist in financing the early operations of the College of General Practice of Canada, the Organizing Committee requested that up to \$10,000 be made available on loan by the Canadian Medical Association. After debating all the implications, your Executive Committee adopted the following resolution:

That, on application, by the Section of General Practice, the Canadian Medical Association grant sums up to \$10,000 for the work of the College of General Practice of Canada some time during the next three years, for the purpose of aiding the establishment of a College of General Practice.

Adopted.

27. During the week of this Annual Meeting, provision has been made for a meeting of the Provisional Executive Committee, the Provisional Board of Representatives and the first meeting of the members of the College of General Practice of Canada. At the only Association Luncheon scheduled for the Annual Meeting, the President of the Canadian Medical Association will officiate at the installation of the first President of the College of General Practice of Canada, at a ceremony launching Canada's youngest and most promising medical organization. We shall wish it Godspeed.

Adopted. Adopted.

Dr. Victor Johnston expressed the gratitude of the College of General Practice of Canada for the assistance given by the Canadian Medical Association over the past few years, and for the grant of \$10,000.00 which is now being made to the College during the next three years.

CANADIAN SUPPORTING COMMITTEE TO W.M.A.

28. The activities of the World Medical Association have in large measure been financed by funds collected and donated by the United States Committee, Inc. in support of W.M.A. At the Seventh General Assembly, member national medical associations were asked to explore the possibility of organizing similar supporting committees in their respective countries. On February 25, 1954, a meeting was convened in Toronto to consider whether the Canadian Supporting Committee should be re-established. A representative group of executives of Canadian pharmaceutical manufacturers and doctors interested in the work of W.M.A. decided that such a supporting committee would be desirable and elected a committee under the chairmanship of Dr. Léon Gérin-Lajoie to organize it. It is hoped that donations from individuals, firms and associations will be forthcoming and that Canada will demonstrate its confidence in the international organization of medicine by aiding its budget. Your Executive Committee has pledged the sum of one thousand dollars as the corporate donation of the Canadian Medical Association to this worthy cause.

Adopted.

Dr. Gérin-Lajoie outlined the need for the Canadian Supporting Committee to the World Medical Association and invited the participation of doctors as individual members of the Committee.

REGISTRY OF PHYSICIANS

29. The Registry of Physicians has been maintained since World War II by the Department of National Health and Welfare. It constitutes the most accurate listing of Canadian doctors and the statistical bulletins which have been issued periodically represent the basic data on our medical population and its distribution.

30. A reassessment of the information on file became necessary, and during the month of March a brief questionnaire was addressed to every Canadian doctor, accompanied by a letter from the President of the Canadian Medical Association to English speaking physicians and from l'Association des Médecins de Langue Française in the case of French speaking physicians. It is our hope that the return to this enquiry will be complete and that the data on file will continue to reflect the true picture of Canadian medical manpower.

Adopted.

MEMBERSHIP FEES

31. At the last Annual Meeting, General Council authorized the appointment of a committee to study and recommend the appropriate membership fees for C.M.A. purposes for the various classes of members recognized by the Divisions. Under the chairmanship of the Honorary Treasurer, such a study was undertaken and at the October meeting of the Executive Committee the committee reported. Fees for ordinary members, membership of husband and wife, Divisional life and honorary members, non-resident members, retired physicians, interns and postgraduate students, recent graduates in early years of practice, and members-at-large have been established. The transmission of this information to the Divisions has met with a most satisfactory response and the C.M.A. fee structure is now uniform throughout the country.

Adopted.

Housing

32. In September 1953, the Secretarial Office of the Association was moved from 135 St. Clair Ave. W. to 244 St. George St., Toronto. In the latter location the Canadian Medical Association occupies the second and third floors of a residence purchased and renovated by

the Ontario Division for office purposes. The space available is suitable for the present needs of the Secretarial Office, the location is good and the building has been well adapted to its new function.

Adopted.

STAFFING

33. At the Halifax meeting of the Executive Committee in October last, a Special Committee of the Executive interviewed two men: Dr. S. S. B. Gilder, as a possible addition to the Editorial Staff and Dr. A. F. W. Peart, as a candidate for the Secretarial Staff. As a result the appointment of Dr. Peart was made, under a special arrangement, as an Assistant Secretary, effective January 1, 1954, and that of Dr. Gilder as Co-editor of the Journal, effective February 1, 1954.

34. Dr. Peart is a graduate of Queen's University who has attained the Diploma in Public Health. Following a period of service in the R.C.A.M.C., for which he was awarded the M.B.E., he had experience as a Medical Health Officer in Western Canada and as Chief of the Epidemiology Division of the Department of National Health and Welfare. He brings to his new duties with the Association a considerable background

of administrative experience.

35. Dr. Gilder is a newcomer to Canada, having been born in Scotland and medically qualified at the University of London. He spent the period 1940 to 1944 as a prisoner of war, carrying out clinical duties in medical establishments and improving his time by attaining fluency in French, German and Spanish. Five years on the editorial staff of the British Medical Journal and three years as a member of the secretarial and editorial staff of the World Health Organization qualify him for his new duties with the Canadian Medical Association and its Journal.

36. Dr. Gilder comes to us highly recommended for the position of Editor of the Journal by men in England for whose opinion and judgment we have high regard, and he gives promise of fully justifying the recommenda-

tions so made.

37. Dr. MacDermot will retire from the Editorial chair June 30, 1955, at which time Dr. Gilder will assume full responsibility for the office of Editor. For a time after that Dr. MacDermot will, it is hoped, continue to give us the benefit of his experience as a Consultant Editor.

38. Changes in the office of the General Secretary are more imminent. At this meeting—on the morrow, in fact—Dr. T. C. Routley will retire as General Secretary of this Association and Dr. A. D. Kelly will succeed to that office. It is proposed that amenities fitting to this retirement shall be observed at this meeting at a later event.

Adopted.

THE JOURNAL

39. Your Executive Committee has been concerned with the responsibilities involved in a major step in Canadian medical journalism, the conversion of the Canadian Medical Association Journal from a monthly to a semi-monthly publication. The details of this transition will be found in the reports of the Editor and the Managing Editor. It is our hope that the Journal in its new form will provide Canadian medical authors with a speedier outlet for their work and the profession generally with a medium for up-to-date medical news,

Adopted

PERMANENT HOME FOR THE ASSOCIATION

40. From time to time over several years your Executive has considered the problem of the expanding activities of this Association and the desirability and importance of gathering them all under one roof. Greater significance and indeed urgency are given to this by changes recently made in the staff of the Journal, and by virtue of the increased activity that must ensue from bringing out the Journal twice a month, as is now proposed.

41. Two years ago a Special Committee set up by the Executive studied the matter and recommended that there be consolidation of the offices. It presented the arguments for and against the several places at which this might be done and recommended that the consolidation be effected in Toronto. At that time, on argument advanced by representatives on our Executive from the Quebec Division as to possible effect on their membership, the matter was tabled, and action deferred.

matter was tabled, and action deferred.

42. This year, on a resolution adopted by General Council at last Annual Meeting, your Executive appointed a larger committee consisting of Drs. N. H. Gosse, D. Sclater Lewis, H. T. Ewart, R. W. Richardson, J. F. C. Anderson, G. F. Strong, "to consider the feasibility of establishing a permanent home for the Canadian Medical Association." That committee met, seriously considered the matter, and presented to the Executive Committee the following recommendations, with certain reservations of Dr. Lewis noted:

1. That all the National activities of the Association be consolidated under one roof.

This recommendation was adopted by the Execu-

tive Committee with one dissenting vote.

An extended debate took place on the recommendations of the Executive Committee for the establishment of a permanent home for the Association. Resolutions designed to defer consideration of this recommendation were defeated, and the Committee of the Whole approved by a recorded vote the report of the Executive Committee up to Sections 40, 41 and 42(1). At this point the Committee of the Whole rose to report to the General Council that Sections 2 to 42(1) inclusive had been approved. The report was carried.

Resuming the status of a Committee of the Whole, Council considered the remainder of the report of the Executive Committee with results as indicated after the appropriate paragraphs.

2. That the above mentioned activities so consolidated be located in Toronto.

An amendment to change the word "Toronto" to read "Ottawa" was lost 6 to 11 (recorded vote). The arguments against the amendment were, among other things

(a) remoteness from the printers of the Journal, and
 (b) the importance of easy access to a first class Medical Library to the Editorial Staff, and the superiority of other cities in that regard.

The amendment having been defeated, the original recommendation was then adopted, again on a recorded vote.

Further debate ensued concerning the location of the permanent home. This resulted in a motion proposed by Dr. Gosse and seconded by Dr. Strong that Section 42(2) be adopted.

Carried.

3. That the consolidated office be in a property owned or controlled by the Association.

This was unanimously adopted. There was expressed the view that under consolidation it was not desirable to occupy the same building as the O.M.A. but rather that the time had come for this Association to own and occupy its own home.

Adopted.

4. That until such time as these recommendations can be fully realized, consolidation be implemented by using temporary quarters.

This was adopted unanimously.

Adopted.

5. That a committee be appointed by the Executive Committee to carry out the foregoing resolutions within the limits of the direction of General Council.

This was unanimously adopted.

By resolution the chair was empowered to appoint a committee to explore sites in Toronto. It was agreed that the General Secretary with power to add be a committee to explore the matter and to bring in a report to the next meeting.

Adopted.

The Resolutions Committee then brought in the following resolution:

Moved by Dr. W. Wilson, seconded by Dr. H. T. Ewart,

THAT WHEREAS the Executive Committee in its report to General Council (Sections 40 to 42 inclusive) has made certain recommendations with respect to consolidating the office of the Association and

Whereas the recommendations were approved and adopted by General Council and

Whereas the recommendation found in Section 42—Clause 5, reads "That a Committee be appointed by the Executive Committee to carry out the foregoing resolutions within the limits of the direction of General Council"

BE IT RESOLVED that the incoming Executive Committee be directed by General Council to implement the recommendations referred to therein and to take such steps as are necessary and pertaining thereto.

Carried.

Canadian Association of Medical Students and Internes

- 43. Your Executive Committee would here express its continued interest in this organization and report that on behalf of this Association it has again contributed \$500.00 to assist in the expansion of C.A.M.S.I.'s activities.
- 44. The Secretarial Office of the Canadian Medical Association has also lent assistance to the operation of the Canadian Interne Placement Service, through which 383 final year students of the class of 1954 from 6 medical schools sought first internships at 40 Canadian hospitals approved for internship.

HOSPITAL ACCREDITATION

45. The developing programme of hospital accreditation in Canada is presented in detail in the Report of the Committee on Hospital Accreditation. This important activity has been supported by the Canadian Medical Association by the allocation of funds in excess of \$15,000 for the current year and by our participation in the work of the Joint Commission on Accreditation of Hospitals and the Canadian Commission on Hospital Accreditation. After a lengthy period of negotiation and organization, it is observed with considerable satisfaction that two Canadian field representatives are actually on duty and that our hospitals, in increasing numbers, are voluntarily seeking the hallmark of accreditation.

Adopted.

DEFENCE MEDICAL AND DENTAL SERVICES ADVISORY BOARD

Medical Council it became necessary to reassess the functions of D.M.D.S.A.B. and a meeting of the Board was held, December 2 and 3, 1953. It quickly became evident that the C.F.M.C. would in no sense supersede D.M.D.S.A.B., but that the latter organization would be an essential supplement to the other. It has been decided to recommend certain amendments to the Order-in-Council under D.M.D.S.A.B. which operates to permit it to advise the Minister of National Defence or the Minister of National Health and Welfare in respect of those matters which are the responsibility of one or the other, connected with the defence of Canada in an emergency. Furthermore, it is being recommended that the personnel of the Board be increased by representatives of the following groups; the Canadian Forces Medical Council, the Association of Canadian Medical Colleges, l'Association des Médecins de Langue Française du Canada, the Council on Dental Education, the conjoint interests of the ten Provincial Medical Registration Authorities and an additional representative of the Canadian Nursing Association designated to represent the

interests of nursing education. With the appointment of two of the former representatives of the Canadian Medical Association to the Canadian Forces Medical Council, to D.M.D.S.A.B. The C.M.A. representation on that body now consists of Dr. T. E. Holland, Dr. H. S. Morton and alternatively, either Dr. T. C. Routley or Dr. A. D.

APPROVAL OF HOSPITALS FOR INTERNSHIP

47. The Committee on Approval of Hospitals for Internship has for several years been obliged to carry out its duties through the medium of correspondence. In recognition of the importance of this work, funds were made available and a meeting of the national committee was convened in Toronto, April 23 and 24. An assessment of the scope and limitations of internship identified by the Canadian Medical Association as suitable for training, immediately following the academic medical course, was undertaken and a revision of the Basis of Approval was carried out. Elsewhere in these reports will be found the results of the Committee's deliberations.

Adopted.

LIAISON WITH L'ASSOCIATION DES MÉDECINS DE LANGUE FRANÇAISE DU CANADA

Council will recall that one year ago it was reported that steps were being taken to establish a liaison committee between l'Association des Médecins de Langue Française du Canada and the Canadian Medical Association in order that the two bodies might co-operate fully in matters of mutual interest.

49. Your Executive Committee is happy to report that such a committee has been established numbering six, three from each organization, with the representatives from our Association being Dr. Walter Scriver, Dr. Renaud Lemieux and Dr. Vance Ward. The committee has already held one meeting.

Adopted.

WORLD MEDICAL ASSOCIATION

First World Conference on Medical Education

50. Members of General Council will recall that the Association's Committee on Medical Education under the chairmanship of Dr. G. E. Hobbs of London, was invited to make proposals with respect to the programme of the First World Conference on Medical Education, being organized by the World Medical Association.

51. The Conference opened with a reception given by the British Medical Association in London on Saturday, August 22, which was followed by an all-day excursion to Cambridge University on Sunday, attended by more than three hundred people.

The programme was divided into plenary sessions on Monday, four sectional meetings on Tuesday, Wednesday and Thursday, with concluding plenary ses-sions on Friday and Saturday.

sions on Friday and Saturday.

53. Sir Lionel Whitby, Vice-Chancellor of Cambridge University, set the stage for the programme with a magnificent address on the subject, "The Challenge to Medical Education in the Second Half of the Twentieth Century". He was followed by Sir Richard Livingstone, President of Corpus Christi College, Oxford, who chose as his title, "What is Education?"—his reply, "To Produce a First Rate Person". It was an address that will be long remembered by those who had the good fortune to hear it. Two other papers, one, "The History of Medical Education", and the other, "Medicine—A Technology or a Profession", completed the day. Dr. Routley was privileged to take part in the last subject and endeavoured to present the point of view of the medical profession of Canada as gleaned from the answers to a questionnaire. answers to a questionnaire.

The themes of the four sectional meetings were as follows:

"Requirements for Entry into Medical Schools"— Chairman: Dr. Victor Johnson, The Mayo Clinic, U.S.A.

"Aims and Content of the Medical Curriculum"-Chairman: Sir Arcot Mudaliar, India.

"Techniques and Methods of Medical Education"

—Chairman: Professor A. Hurtado, Peru.

"Preventive and Social Medicine"—Chairman:

Professor A. Stampar, Yugoslavia.

Altogether there were one hundred and fifty-one speakers on the programme with almost a like number of discussers. The registration went away beyond the most optimistic expectations, there being seven hundred and four coming from ninety-two university and medical centres situated in fifty-eight countries. They were ac-companied by two hundred and forty ladies who, along with local doctors, made up a total attendance of well over a thousand.

56. The entire proceedings were carried on in the three official languages of the Association—English, French and Spanish, by the utilization of mechanical equipment operated by twenty-four interpreters and eight engineers.

57. All of the proceedings were recorded on two thousand feet of magnetic wire which will be utilized in the preparation of the printed proceedings which will be produced in book form by the Oxford University

The entire undertaking which cost somewhere in the neighbourhood of seventy-five thousand dollars was financed largely by gift funds.

Seventeen Canadians were registered at the Conference, five of whom took part in the programme. Drs. Weaver of Vancouver, Hobbs of London and Richard of Ottawa who officially represented the Canadian Medical Association made excellent contributions as evidenced by the many comments one heard following their presentations. The other two Canadian speakers were Dr. Ewen Cameron of Montreal and Dr. Routley. Dr. Cameron's paper elicited keen discussion and was regarded as quite worthwhile.

60. The Conference in every respect was a magnificent undertaking and something which will prove to be of enduring value to the medical profession of the world, particularly to those who are concerned with medical education.

Adonted.

Seventh General Assembly

61. The Seventh General Assembly of the World Medical Association was held in the Hall of the Knights of the Parliament Buildings in The Hague, Holland, beginning on Monday, August 31, and continuing until Saturday, September 5. With an attendance of more than seven hundred from forty-five countries, the Meeting was in every sense an outstanding and successful one.

The Canadian Medical Association was officially represented by Dr. Roy Richardson of Winnipeg and Dr. Routley, as delegates, with Dr. Ernest MacDermot of Montreal and Dr. Ethlyn Trapp of Vancouver, as alternates and observers.

Many subjects of vital interest to the medical profession were discussed including social security, medical education, occupational and industrial medicine, international pharmacopæia, medical ethics, medical journalism, the place of the medical profession in peace and war, relationship to professional and non-professional organizations, assistance to underdeveloped countries, military medicine, the distribution of medical personnel and

Eighth General Assembly

64. The Eighth General Assembly will be held in Rome in October, 1954. The Canadian Medical Association will be officially represented by the President, Dr. Charles W. Burns, and Dr. Roy Richardson, Chairman of the Association's Committee on Economics. The General Secretary has a preparate search of the Council of the Association's Committee on Economics. eral Secretary has a permanent seat on the Council of the W.M.A. in his honorary capacity of Consultant Gen-eral of the World Medical Association.

65. In summary, your Executive Committee reports a year of varied activity. The components of our Association, the Provincial Divisions, are demonstrating within their respective spheres the vigour and energy which denotes a healthy organization. Many of the Committees have this year had the opportunity to function on a truly national basis and the outcome of their deliberations will contribute to the attainment of the deliberations will contribute to the attainment of the objective of our Association—"the promotion of the medical and allied sciences and the maintenance of the honour and the interests of the medical profession".

All of which is respectfully submitted.

NORMAN H. GOSSE, Chairman.

The Resolutions Committee then presented the following resolution regarding Section 18:

Moved by Dr. W. Wilson, seconded by Dr. H. T. Ewart,

THAT WHEREAS the Executive Committee has recommended to Council that under Chapter VII, Section 1(b) of the By-Laws, the following organizations be recommended for admission to affiliate status:

Canadian Arthritis and Rheumatism Society.

Canadian Cancer Society.
Canadian Mental Health Association.

Canadian Tuberculosis Association.

Health League of Canada.

Priory in Canada of the Grand Priory in the

British Realm of the Venerable Order of the Hospital of St. John of Jerusalem. Victorian Order of Nurses for Canada.

BE IT RESOLVED that Council accept the recommendation of its Executive Committee with the understanding that the Executive Committee each year will survey carefully and assess the status of the above named organizations especially with respect to qualifications as set forth in Chapter VII, Section 1(b) and will report annually to Council concerning the position of these organizations as affiliates.

AND FURTHER BE IT RESOLVED that a report be obtained from the Association's solicitor as to the legal status between the Association and the above affiliates.

Moved by Dr. H. T. Ewart, seconded by Dr. R. Vance Ward.

THAT the Committee of a Whole rise and report.

Dr. F. Turnbull, Chairman of the Committee of the Whole reported that his Committee had had under

consideration the report in part of the Executive Committee; that Sections 42(2) to 65 inclusive had been approved and furthermore that the above resolutions submitted by the Resolutions Committee had been approved.

The Chairman of Council, Dr. Gosse, then resumed the Chair. It was moved that the report of the Committee of the Whole be adopted. The report was approved with 14 negative votes.

REPORT OF THE COMMITTEE ON APPROVAL OF HOSPITALS FOR INTERNSHIP

Mr. Chairman and Members of General Council:

66. Your Committee on Approval of Hospitals for Internship has consisted of the following members:

Dr. R. A. Seymour, Vancouver
Dr. L. O. Bradley, Calgary
Dr. J. F. C. Anderson, Saskatoon
Dr. J. G. Turner, Montreal
Dr. G. Harvey Agnew, Toronto, Chairman

67. Dr. A. D. Kelly and Dr. A. F. W. Peart have acted as secretaries of the Committee.

For many years the business of the Committee has necessarily been conducted by correspondence, but in view of the desirability of bringing our basis of approval up to date and, with the concurrence of the Executive Committee, a meeting of all members was convened in Toronto on April 23rd and 24th, 1954. A review of the history of the Association's activities in this field since 1928, the relationship to a similar activity of the American Medical Association, the effect of specialty training programmes, the revised programme of basic accreditation of hospitals, and the effect of hospitalization insurance on the experience of interns-all were considered by your Committee.

69. It is recognized that the essential purpose of the approval program of the Canadian Medical Association is the identification of Canadian general hospitals suitably organized to provide the basic educational experience which should be available in the initial internship followwhich should be available in the initial internship following the completion of the academic years of medical training. Internship is essentially a period of further education in medicine. Having established this objective and having regard to its relationship to medical licensure, to general practice, and to further training either for general practice or for the specialties, your Committee turned its attention to a critical and detailed examination of the Basis of Approval of an Intern Training Program. The current Basis of Approval was first published in 1931 and it has been amended in only minor detail since that time. detail since that time.

Following further study of the draft as amended, your Committee proposes to submit for the concurrence of the Executive Committee, a new Basis of Approval inof the Executive Committee, a new Basis of Approval in-corporating those considerations which are regarded as important in the light of today's concept of the educa-tional value of the initial internship. It is recognized that such a restatement will be of interest to many related organizations such as the Canadian Hospital Association, the Royal College of Physicians and Sur-geons of Canada, the College of General Practice of Canada, the Canadian Commission on Hospital Accredita-tion the Joint Commission on Accreditation of Hospitals. tion, the Joint Commission on Accreditation of Hospitals, the Canadian Interne Placement Service and the pro-vincial medical licensing authorities as well as to many Canadian hospitals and individual physicians and medical students.

71. It is the view of your Committee that the Basis of Approval should clearly indicate that the scope of the approval programme relates to first or initial internships in Canadian general hospitals, that havitals as him to be seen to be supported by the control of the contro approval programme relates to first or initial internships in Canadian general hospitals; that hospitals seeking recognition should be fully accredited by the Joint Commission on Accreditation of Hospitals; that rotating internships providing experience in medicine, surgery, obstetrics and pædiatrics be required, by arrangements for affiliation if necessary; that hospitals be required to have at least 150 beds and 4,000 annual admissions for consideration as training centres; that the medical staff organization be suitable for adequate supervision and instruction and that all concerned be aware of their responsibilities at this important stage of the education of a doctor. Within this framework will be elaborated an outline of the essentials of an intern training programme which, we hope, will assist hospitals and their medical staffs to sustain a service to the benefit of patients, as well as to hospital administration.

Your Committee is aware of the relationship between the function of approval for the training of interns and the basic accreditation of hospitals. The presence of Dr. Karl E. Hollis, field representative of the Canadian Commission on Hospital Accreditation, at our meeting, commission on Hospital Accreditation, at our meeting, was most helpful in promoting the integration of these two facets and we look forward to obtaining useful information from the visits of the Canadian field representatives to our hospitals. It is possible that the interests of the Canadian Medical Association in these related activities might eventually be served by a single com73. It is not possible to reproduce in this report the wide range of topics studied by your Committee, but the opportunity was taken to debate many related problems of hospitals and their house staffs. The routine work of the Committee has resulted in approval of one additional Canadian hospital for the training of interns; one hospital is still under consideration and two hospitals have been granted increases in their authorized number of interns.

74. All of which is respectfully submitted.

G. HARVEY AGNEW,

Chairman.

As a supplement to his report Dr. Agnew recommended to General Council that the name of the Committee on Approval of Hospitals for Internship be changed to the Committee on Approval of Hospitals for the Training of Interns.

Dr. E. K. Lyon raised the point that objective studies should be carried out to evaluate hospital staff requirements for intern training. It was

Moved by Dr. E. K. Lyon, seconded by Dr. Cluny Macpherson.

That the Committee on Approval of Hospitals for Internship be requested by General Council to undertake a study of the organization of a hospital staff for internship training and report back to this General Council at a later session.

Carried

Report adopted as amended.

75. After a full discussion of the financial affairs of the Association including consideration of the auditors' report which had been provided in mimeographed form to all members of General Council, the report of the Honorary Treasurer (see page 225) was adopted.

REPORT OF THE MANAGING EDITOR

Mr. Chairman and Members of General Council:

76. From the Managing Editor's point of view the Journal had a satisfactory year in 1953, Perhaps this can best be portrayed in the following table which covers the past four years.

78. With the doubling of the Association membership fee it was thought that there might be some falling off in circulation in 1953. Happily this was not the case.

Journals printed in 1952 152,738 Journals printed in 1953 154,079

Increase in 1953 1,341

79. Although the advertising rates were sharply increased in 1953 (a third advance in three years), advertising volume increased.

*Only once in the history of the Journal has advertising volume been higher, and that was 1,156 pages in 1947 when advertising rates were very much lower and business mushroomed immediately following cessation of hostilities.

80. A few additional observations relative to the four-year period are presented.

ON THE REVENUE SIDE

Advertising revenue has increased	81.5%
Reprint and sundry sales have increased	500.0%
Total revenue has increased	69.0%

ON THE COST SIDE

P	rinting has increased	27.5%
S		51.0%
	otal costs have increased	31.5%
A	gents' commissions have decreased from 20'	% + ir
	1950 to 15% and 12% in 1953.	

RE: THE YEAR 1954

Revenue

81. Judging from the contracts on hand, there is every reason to believe that the advertising revenue for 1954 will be approximately the same, or perhaps a little better than that for 1953.

Expenditure

82. There will, however, be a sharp increase in expenditures, particularly the Salary Account. If our plans to produce the Journal regularly twice each month are to succeed, it is vitally important that experienced personnel be hired in addition to our already augmented staff and given sufficient time in which to become thoroughly familiar with procedure so that the new Journal may get off to a good start.

77.				
Revenue	1950	1951	1952	1953
Advertising	88,536.90	105,561.91	125,800.42	160,710.42
Subscriptions	17,124.56	15,173.08	15,531.89	15,599.60
Reprints and Sundry Sales	519.56	336.65	1,287.22	3,057.98
Total	106,181.02	121,071.64	142,619.44	179,368.00
1				
Costs	1950	1951	1952	1953
Printing	81,381.04	87,389.48	96,556.95	103,911.40
Salaries	13,585.26	15,692.51	19,068.77	20,494.00
Other Expenses (Agents' Commissions, Audit and General	,			
Expense)	13,746.83	13,136.06	17,871.93	18,662.81
Total	108,713.13	116,218.05	133,497.65	143,068.21
	1950	1951	1952	1953
EXCESS OF REVENUE OVER COSTS	2,532.11 (loss)	4,853.59	9,121.79	36,299.79

Re: The Year 1955 . . . and the Semi-monthly Journal

Revenue

At this early date it is impossible to predict the revenue to be derived from the sale of advertising space in the semi-monthly Journal. It is confidently anticipated, however, that a greater volume of space will be sold, but it is extremely doubtful that all of our advertisers will double their budgets. While we have been unable to query all present advertisers on their plans for 1955, there are some who have indicated that for the first year at least they will spread their present schedules out rather than place an advertisement in each issue. Others Therefore, in revising our rate card we have again included a slight increase though not as great as we would like, and by no means as high as we hope ultimately to

The circulation of a publication largely determines what proportion of an advertising budget will be spent on it. We feel confident that many advertisers would increase their Journal budgets if we had a greater coverage

of Canadian physicians.

As our circulation amongst the doctors of Canada rests very largely in the hands of the ten Divisions, may we urge and stress the desirability of each one aiming at the highest possible coverage.

Expenditure

86. The expenditures for 1955 will be increased very substantially as was detailed in the budget for the new Journal which was discussed and accepted last year. However, increased costs can be controlled by maintaining a proper balance between editorial and advertising pages in each issue of the Journal.

87. Co-operation between the offices of the Editor and the Managing Editor continues quite harmoniously, and I would particularly like to compliment Miss Moyse who so ably carries her share of the business management of

the Journal.

Relations with the printers are quite satisfactory. I am happy to report that no advances in printing costs appear to be imminent. An excellent supply of both paper and envelopes is on hand and arrangements have been made for future supplies. The Committee will also be interested to know that the Murray Printing Company are now engaged in building a new plant which we are told will be one of the largest in America and equipped with the most modern printing machinery. November, 1954 is set as the deadline for occupancy so it is possible that our new Journal will synchronize with the opening of the new plant.

89. I would like to mention the high degree of co-operation which the Journal is receiving from Mr. Edwards in Canada and Mr. Slack in the United States

Edwards in Canada and Mr. Slack in the United States—our two national advertising solicitors.

90. This year will witness the closing of a 44-year period in the life of the Journal when the monthly is accelerated on January 1, 1955, to a twice-a-month publication; and never once in the 44 years did the Journal fail to appear monthly. In looking to the future we should not forget the great debt of gratitude we owe to those who kept the Journal going through good days and had. and bad.

91. A glance at the figures will remind us that the Association Journal is now in big business, and unless all signs fail, it will continue to grow in usefulness and in dollar turnover. It is an operation, however, which must be watched carefully, as it is a well-known fact that publication profits can disappear to be replaced by

deficits in the proverbial twinkling of an eye.

92. At the moment the long-term future for the Journal is bright and no signs appear on the horizon to suggest that the plans for the new Journal should in any

way be altered.

All of which is respectfully submitted.

T. C. ROUTLEY Managing Editor. Adopted.

RETIREMENT OF DR. T. C. ROUTLEY AS GENERAL SECRETARY

The Chairman announced that the Nominating Committee would soon be meeting and that this would be an appropriate time to effect the retirement of Dr. T. C. Routley as General Secretary of the Canadian Medical Association and to introduce Dr. A. D. Kelly as the new General Secretary so that Dr. Kelly might take his place at the meeting of the Nominating Committee.

Dr. Gosse stated that it was not his intention to make any extensive remarks about Dr. Routley's distinguished service to the Association. That was to be done at the Annual Meeting on June 16. However, the Resolutions Committee had been asked to prepare the

following resolution:

Moved by Dr. W. Wilson, seconded by Dr. C. L. Gass,

THAT WHEREAS Dr. Thomas Clarence Routley has completed thirty-one years of loyal and conspicuously successful service to the Canadian Medical Association in his capacity as General Secretary and

WHEREAS Council is deeply conscious of the debt that International Medicine and Canadian Medicine in general, and the Canadian Medical Association in particular, owe to Dr. Routley,

THEREFORE BE IT RESOLVED that it be recorded in the minutes that Council views his retirement with deep regret but also with great pleasure looks forward to his close and distinguished association with Canadian Medicine for years to come.

AND BE IT FURTHER RESOLVED that Council desires to couple with the name of Dr. Routley, in expressing the above sentiments, that of his gracious wife who throughout the years has been to him in all his work such a splendid support and en-couragement. Carried Unanimously.

There was a standing ovation for Dr. Routley Dr. Routley addressed General Council briefly, and thanked members of Council for the support, confidence and many kindnesses that had been extended to him during his term of office. He commended Dr. A. D. Kelly who had been his friend and colleague for seventeen years, to the members as being one well quali-fied and able to carry on in the best interests of the Association.

APPOINTMENT OF DR. A. D. KELLY AS GENERAL SECRETARY

The Chairman then introduced Dr. Kelly to the meeting. There was a standing ovation for Dr. Kelly.

In introducing Dr. Kelly Dr. Gosse said, "I commend to you in the name of the Executive Committee of the Canadian Medical Association, this man who has just been presented to Council in whom we have the greatest confidence.

Dr. Kelly addressed General Council briefly. He thanked the members for the confidence they had placed in him in raising him to the high office of General Secretary, and stated that he would devote himself to the interests and tradition of the Canadian Medical Association, and would carry on the work that Dr. Routley had begun in building a strong Association.

REPORT OF THE EDITOR

Mr. Chairman and Members of General Council:

I beg to report on the work of the Journal for 93. the past year.

94. The supply of editorial material has continued to be sufficient, although the number of rejections has been

slightly higher than last year. The reason for rejecting a paper is usually that it does not come up to our standards. But sometimes papers may be unsuitable because they are too highly specialized, or too theoretical, or little more than extracts from textbooks. The very long papers, whilst undesirable, are not necessarily to be rejected; suggestions can sometimes be made for shortening them.

Our plans for issuing a bi-weekly journal are well way. The proposed increase in publication has under way. provided problems of various kinds. The first and most important is that of extra staff. We have made a good beginning with the appointment of Dr. Gilder as co-editor. But this only takes care of the present publica-tion. With the new bi-weekly yet more staff will be needed both on the editorial side and for the increased routine work. Every effort is being made to obtain this extra help.

The expansion of the Journal also calls for more material. Plans are under way to ensure a steady flow of papers, but the miscellaneous material, which is just as important, must be largely produced in the editorial

97. The advertising is very closely tied up with the make-up of the Journal, and has its own peculiar problems. For example, the type of binding we use in the Journal directly affects some of our advertisements. One form of binding permits of special inserts, and an alternative type, which has certain advantages in itself, makes these inserts practically impossible, with consequent loss of revenue.

98. Since our expansion will depend very considerably on the development of our advertising, these prob-

lems have to be very carefully thought out. In this connection our office has been working with the Managing Editor in sending out a series of monthly letters to our advertisers in preparation for the coming year. Advertising contracts are already being made for 1955, and the preliminary work must be done many months beforehand.

100. The March number was devoted almost entirely to material dealing with the Centenary of the Queen's University Medical Faculty. This issue had been in preparation since the previous August, and I feel that it has fully justified the effort.

101. The number of books sent in for review is increasing. We received 418 this year. The handling of them involves a great deal of work.

102. I have only to add my official report of the arrival of Dr. S. S. B. Gilder, and of his immediate and extremely welcome assumption of his duties as coeditor. He is going to be a busy man, and I know that we have made no mistake in choosing him to work

103. I must again express my gratitude to the provincial correspondents for their constant and essential support.

All of which is respectfully submitted.

H. E. MacDERMOT,

Editor. Adopted.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

Mr. Chairman and Members of General Council:

104. One section of your committee suggests that, in view of the changing demands on isolation hospital accommodation, these institutions might well be combined in many instances with accommodation for convalescent older citizens. Demand for hospital care of this latter group appears to be increasing. While this has been carried out to some extent in certain communities, and appears to be a fairly satisfactory and economical plan, we would invite comment from hospital administrators in this regard.

105. It is suggested that the profession generally be reminded of the Federal Grant for laboratory and radiological investigation in smaller centres. The grant is available on a matching basis from provincial governments, and is administered by them. If the profession in each province will plan these regional diagnostic centres in collaboration with provincial health departments, and if they are operated on a truly regional basis, it would expect to be an important service to citizens it would appear to be an important service to citizens and of great assistance to physicians more remote from present services.

106. Cases of rabies in wild and domestic animals continue to be reported in the Western provinces. That no human cases have been reported is a credit to the publicity given this matter, even in remote areas, by various governments, and the fact that rabies vaccine has been made readily available to those people bitten by possibly rabid animals.

107. We would reiterate our previous statement that a considerable portion of present public health procedures belong in the field of the medical practitioner; and we believe it will be profitable to both our citizens and the physicians when the provincial and municipal governments and the medical profession make a concerted effort to place this work in the hands of the practitioner on equitable terms.

Adopted.

108. Finally, we would recommend that the Canadian Medical Association approve of the fluoridation of communal water supplies under proper supervision and safe-guards. We believe that failure to do so would ignore the massive evidence of value and safety accumulated by use and study of this procedure in hundreds of cities on this continent during the past eight years.

All of which is respectfully submitted.

G. M. LITTLE, Chairman.

Following Dr. Little's report, considerable dis-cussion resulted on the issue of fluoridation and the findings of studies and reports were quoted. The Resolutions Committee submitted the following resolution:

Moved by Dr. W. Wilson, seconded by Dr. R. Vance Ward,

> THAT WHEREAS certain conflicting opinions appear to exist on the advisability of advocating the fluoridation of communal water supplies.

> BE IT RESOLVED that this Council record in its proceedings that it approves of the fluoridation of communal water supplies under proper supervision and safeguards. Carried. Adonted.

REPORT OF THE COMMITTEE ON PHARMACY

Mr. Chairman and Members of General Council:

109. At a meeting of the Drug Advisory Committee of the Department of National Health and Welfare, attention was directed to a number of accidental deaths due to strychnine (8 or 10 a year in Canada). Most cases were due to cathartic pills containing strychnine. It was agreed that strychnine serves no useful purpose in laxative preparations and should be removed from such preparations. On the recommendation of your Committee, the Executive Committee of the Canadian Medical Association wrote to the Department of National Health and Welfare requesting suitable action to remove strychnine from laxative preparations which are sold directly to the public. Adopted.

Dr. G. D. W. Cameron advised that his Department had already taken steps to remove strychnine from laxative preparations,

Your Committee was informed that at a meeting of the Executive Committee, the suggestion was made that all drugs sold in Canada be labelled as to strength, content, dose, or composition, in both Metric and Imperial units. The purpose of this suggestion was to facilitate the gradual introduction of the Metric System as the only one to be used for pharmaceutical purposes. Your Committee is in favour of the purpose of this suggestion and submits the following recommendation: that drugs presently labelled only in Imperial Units be labelled also in Metric Units, using numerals at least equal in size to those of the Imperial Units. At present most new drugs are labelled in both Metric and Imperial Units. Older ones are often labelled only in Imperial Units. No good purpose would be served by labelling certain new drugs, e.g., vitamin B12, in grains as well as in micrograms.

111. The Metric System is being used increasingly in medical publications. It is the preferred system of the British Pharmacopœia and the United States Pharmacopœia. We have reason to believe that most pharmaceutical manufacturers would favour any steps to accelerate the trend to the exclusive use of the Metric System for drugs in Canada. One reason is that the potential market for export of drugs from Canada is almost entirely to countries where the Metric System is used exclusively.

If our recommendation is approved by General Council, we suggest that it be forwarded to the Department of National Health and Welfare with a request for appropriate action.

113. The members of General Council will be interested to know that a Bill, K13, was introduced into the Senate of Canada on March 27, 1954 to amend the Opium and Narcotic Drug Act. Of greatest interest is a proposed amendment which would give power to the Governor General in Council to permit the sale by verbal order of specified preparations containing small amounts. order of specified preparations containing small amounts of narcotics. It is expected that regulations will be framed to allow verbal orders for preparations containing codeine, and cough medicines containing amounts of other narcotics.

All of which is respectfully submitted.

J. K. W. FERGUSON,

Adopted.

REPORT OF THE COMMITTEE ON AWARDS, SCHOLARSHIPS AND LECTURES

Mr. Chairman and Members of General Council:

114. The Committee on Awards, Scholarships and Lectures has consisted of the following members for the year 1953-54.

NUCLEUS MEMBERS

Dr. D. S. Lewis, Chairman Dr. E. S. Mills Dr. N. W. Philpott

CORRESPONDING MEMBERS

Dr. Lennox G. Bell Dr. Robert M. Janes Dr. R. B. Kerr

Dr. Jean Saucier

115. Sir Howard Florey has accepted our invitation to deliver the 1954 Lister Lecture at the Annual Meeting in Vancouver.

The Committee was unable to reach a unanimous opinion and did not make any recommendation to the Executive Committee regarding the award of the Starr Medal for the year 1954. 117. In response to an inquiry from the Executive Committee, your committee expressed the opinion that the preparation of a miniature of the Starr Medal was not necessary. Members of the committee felt that the medal should be regarded as an academic award rather than as a civil decoration.

All of which is respectfully submitted.

D. SCLATER LEWIS, Chairman. Adopted.

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS

Mr. Chairman and Members of General Council:

118. The highlight of public relations activities in the current year was the Conference on Public Relations, held in Toronto on February 5 and 6, 1954. The chairman of every Divisional Committee on Public Relations, the Secretary of each of the Divisions, the members of the nucleus of the national committee, our professional advisers in public relations and the secretaries of the Association were present. This very representative gathering undertook to examine the aims of a medical public relations programme and then proceeded to discuss in detail four areas where the techniques of public relations are being applied. Medical-Press relations, the use of radio and television, the development of Health Forums and the function of mediation committees were debated at and the function of mediation committees were debated at length. It was soon evident that a great deal of useful work is being done throughout the country by Divisional committees and by branch medical societies, large and small. In some regions the emphasis may be placed on the dissemination of information to the public by means of press and radio, in others the organization of health forums has taken precedence, but the striking fact is that the profession generally has accorded the need fact is that the profession generally has accepted the need of efforts to improve our relationships with the public in a manner which contrasts markedly with our attitude of a few years ago. Underlying all of this interest and activity is a growing realization that the complaints of the public against we whether such complaints of the public against us, whether such complaints are founded on misunderstanding or whether they reflect actual shortcomings, demand our attention and remedial action. The offensive behaviour of the few who undermine the good repute of the profession as a whole requires the disciplinary curbs which only the organizations of the profession can apply.

119. From time to time your Committee is confronted with examples of unfavourable publicity in the form of statements derogatory to the profession made by spokesmen for other occupational or political groups and occasionally by individual doctors. While such generalizations are essentially inaccurate and often quite unfair, they are frequently based on examples of anti-social behaviour on the part of a few members of the profession. This small element of truth makes it difficult to deny the charges categorically and the issuance of a statement with the processory qualifications and element of the charges categorically and the issuance of a statement with the necessary qualifications and elaboration often conveys the impression that the original charges were well founded. The reaction of certain of our members to unfavourable publicity is that their representatives engaged in improving our public relations should immediately issue a statement disputing the charges and that failure to do so is evidence of apathy or incompetence. Your public relations committees at all levels of organi-Your public relations committees at all levels of organization, perhaps more particularly at the level of local societies, often exercise their best judgment by maintaining silence on such controversial matters and in so doing deserve the support of their colleagues. In other instances their awareness of a lack of unanimity in the minds of their constituents makes it unwise to comment for publication. Such incidents should provide us with the clues for corrective action if we appreciate that an otherwise irresponsible attack may have as its basis some elements of legitimate complaint.

Emerging from the discussion at the national 120. Conference, was an instruction to the Nucleus Committee to draft a guide or code for the use of the profession and its individual members in their relationships with press, radio and television. Inherent in this assignment press, radio and television. Inherent in this assignment are considerations of the attitudes and policies of these media of public information, the viewpoint of hospitals and their medical staffs and the state of organization of the local units of the profession which are the initial contacts of the news gatherers. Preliminary work on such a guide has been undertaken and when available, it will be exceptable to Divisional committees for study and be circulated to Divisional committees for study and

121. A useful contribution to the clarification of press relations was made by General Council at the last Annual Meeting when it was ruled that, when circumstances required it, the name of a medical spokesman might accompany a statement for the public. The application of this ruling has made it possible for public relations committees to proceed with confidence and has provided individual members of the profession with a sense of assurance when called upon to speak or write in a personal capacity on behalf of their colleagues. Like all general statements, this one requires the existence of the machinery to make it operative. In this instance the organized bodies of our profession require at every level organized bodies of our profession require at every to identify and make known a committee or an individual who is empowered to take prompt action in respect of enquiries from the media of public information.

122. Following this delineation of policy, your Committee was able to take advantage of an offer from the Globe and Mail, Toronto, to publish a feature series of health articles under the title "Canadian Medical Report". The contributors were selected from across the country for their special knowledge of twelve arbitrarily selected topics and in each instance they complied promptly with our request to prepare an article for publication under their name. The response to this effort was uniformly favourable and the entire series was reproduced, with permission, in several Canadian daily and weekly newspapers and one in the United States.

Your Committee has explored certain possibilities in radio and television with a view to adding a Cana-dian commentary to certain highly-rated health programmes originating in the United States. In one instance it was proposed that the C.M.A., in conjunction with the Canadian Life Insurance Officers Association, should jointly sponsor selected topics from the series "The Search that Never Ends". For technical reasons these plans have not been possible to fulfil and the origination of nation-wide broadcasts has not been within the resources of the Committee. Radio programmes of local coverage have, however, been a feature of the P.R. activities of several Divisions and commendable efforts have been carried out by some very small medical societies.

124. The fluoridation of community water supplies in the interest of the prevention of dental caries has become an issue of some importance and references in the press have been numerous. Many of these have generated more heat than light and the attitude of the Canadian Medical Association has been variously interpreted by proponents and opponents of fluoridation. Our official stated in the Report of the Committee on Nutrition to the Eighty-sixth Annual Meeting and in two lengthy appendices to that report. Your Committee on Public Relations appreciates that the complexities of the subject make it difficult to be dogmatic but it is recommended that when the Association issues a statement on a matter of similar public interest, our position be stated un-equivocally, and in as brief a manner as possible.

In adopting the recommendation of the Committee on Public Health to "Approve of the fluoridation of communal water supplies under proper supervision and safeguards", the General Council has fulfilled the suggestion of the Committee on Public Relations in Section 124.

125. In the report of your Committee on Public Relations to last year's Annual Meeting at Winnipeg, attention was called to the need for greater co-ordination of the activities of Divisional committees. The convening of the Conference on Public Relations was an important step in this direction but the diverse and varied projects being undertaken by organized medical groups across the country indicate that continuous liaison and aid would enhance the effectiveness of these efforts. It was the recommendation of your Committee that such coordination could best be carried out by the engagement of a full-time public relations officer. A budget of \$25,000 per year was suggested. These recommendations were not adopted and the budget for Public Relations remains

126. Your Committee is fully aware that the important key figures in any public relations effort are the members of the medical profession themselves and that it is not possible to shelve our responsibilities by hiring lay experts. We are of the opinion that the spokesmen for the profession should be doctors and we realize that the officers and officials of the Association and of the Divisions have carried out this duty very effectively. The evidence of widespread interest in improving our public relations, however, demands a reconsideration of the proposal to provide the whole profession with the guidance of a full-time public relations officer. In bringing forward this matter again, your Committee intends no disparagement of the professional services which we now obtain from our advisers, Public and Industrial Relations Limited. The arrangement under which this firm has been engaged in a consultative capacity is, however, local in its scope and strictly limited in time. Although many of the bene-fits of the current relationship with Public and Industrial Relations may be more apparent to the office of the General Secretary than to the membership as a whole, it is possible to refer to the excellent press arrangements at the last Annual Meeting as an example of the good work carried out by our professional advisers. It remains to be decided whether the Association desires to extend our activities in public relations by providing the personnel and resources for a full-scale programme or whether the current level of activity shall be maintained and possibly integrited in the direction of programme and possibly intensified in the direction of more widespread dissemination of information to the Divisions.

PROPOSALS

1. That Council reconsider the request of the Public Relations Committee for a budget of \$25,000.00 per year as suggested in 1953.

2. That consideration be given to the appointment of a full-time Public Relations man. He should be carefully selected and of high calibre. It is possible that a lay person with special qualifications could fill the position satisfactorily but it is the feeling of the majority of the committee that he would be most satisfactorily chosen from the medical profession.

3. Should a member of the medical profession be appointed as full-time Public Relations Officer, it is proposed that the part-time services of a lay Public Relations Officer be retained for consultation purposes as in the past. All of which is respectfully submitted.

W. G. BIGELOW, Chairman.

Much discussion resulted in respect to the need of a Public Relations officer, duties such a person would be expected to perform, and budget requirements.

Moved by Dr. Gordon Johnston, seconded by Dr. E. C. McCoy,

THAT our Public Relations be carried on by the officers and secretariat of this Association, THAT if necessary the secretariat be enlarged sufficiently to cope with the work involved, and THAT the Association retain the services of a public relations counsel on a part time basis. Carried.

Moved by Dr. M. C. Harvey, seconded by Dr. R. H. Malyon,

Whereas the significance and importance of Public Relations to Canadian Medicine is becoming increasingly apparent, and

Whereas the Canadian Medical Association is the proper body to take the lead in this endeavour and to be in a position to offer opinions and advice to its various Divisions.

THEREFORE BE IT RESOLVED that this Council directs that up to the sum of \$25,000 be allocated to Public Relations in its 1955 budget.

Carried.

Report adopted as amended.

REPORT OF THE COMMITTEE ON NUTRITION

Mr. Chairman and Members of General Council:

128. During the past year, my Committee has dealt with a number of requests for information on problems in nutrition. Most have been of relatively minor importance and do not merit mention here. However, there were two items which may be of interest to General Council. One concerns the fluoridation of communal water supplies. The other relates to the use of aluminium cooking utensils.

we have reviewed our memorandum on the fluoridation of communal water supplies. This appeared as Appendix B to a previous report of the Committee on Nutrition (Canad. M. A. J., 69: 214, 1953). The review was made by Drs. Malcolm Brown, A. L. Chute, L. B. Pett and myself. Its purpose was to determine if, in the light of any newer knowledge, we should prepare another memorandum or a modification of the already existing one. We decided that there were no grounds for such action at the present time, but the subject will be kept under review. Difficulties in interpreting our memorandum seem to have arisen from failure to make a clear distinction between the Report of the Joint Committee of the Canadian Dental and Canadian Medical Associations (Appendix A—Canad. M. A. J., 69: 213, 1953) and the Memorandum of the Ad Hoc Sub-committee of the Committee on Nutrition of the Canadian Medical Association (Appendix B—Canad. M. A. J., 69: 214, 1953). Appendix A was a statement addressed to both lay and professional groups. Appendix B was a technical memorandum addressed primarily to the medical profession. Appendix A referred to the existence of many unanswered questions involved in fluoridation of water supplies and pointed out that investigations are continuing in both the dental and medical fields. It recommended that committees considering water fluoridation should discuss the subject with the local medical authorities might wish to devote attention. It was intended especially for use by physicians called upon to take an active part in studying and controlling the effects of fluoridation in their communities. Although recognizing the dental benefits of fluoridation, as set forth in the Report of the Joint Committee of the Canadian Dental and Canadian Medical Associations, we do not believe that, at the present time, we would be justified in recommending to General Council unqualified endorsement of the policy of fluoridation of communal water supplies containing fluorides in a concentration of fluoridation in this experim

In view of Council's decision to adopt Section 108 of the Report of the Committee on Public Health, and the subsequent resolution which followed Section 108, approving of the fluoridation of communal water supplies under proper supervision and safeguards, section 129 of this report was not adopted.

130. The allegation that the use of aluminium cooking utensils may be harmful to health has been brought to my attention during the past year. In response to a request from the Deputy General Secretary, I sent him the following information. "It is a matter of common knowledge that, for many years, rumours have been circulated periodically to the effect that the use of aluminium cooking utensils may be injurious to health. To those who are familiar with the scientific and medical literature, it is equally well known that these rumours have no basis in fact. There is no trustworthy evidence, or even reasonable suspicion, that aluminium in food, in amounts such as are derived from the use of aluminium cooking utensils, has any adverse effect on health." This statement was made by me as Chairman. It was not issued on behalf of my Committee or the Canadian Medical Association. I have taken the view that my Committee should not be expected to prepare official statements concerning individual commercial products.

All of which is respectfully submitted.

E. H. BENSLEY, Chairman.

On motion duly recorded and carried, the Report of the Committee on Nutrition was adopted with the exception of Section 129 which had been superseded by the resolution regarding fluoridation following Section 108.

REPORT OF THE C.M.A. REPRESENTATIVE ON THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

Mr. Chairman and Members of General Council:

131. Since my last report to General Council there have been two meetings of the Joint Commission on Accreditation of Hospitals—one in December, 1953 and one in April, 1954. Many important items have come before the Commissioners and it will not be possible to report in detail on them at this time, but I believe the following should be called to the attention of this Council.

THE BUDGET

132. You will recall that at the outset the estimated cost of operation of the Joint Commission was \$70,000. As the Canadian Medical Association representation consists of only one member in 20, the share of the Canadian Medical Association in the estimated budget was \$3,500, and it was with that amount in mind that the Canadian Medical Association accepted a seat on the Commission. Owing to increased costs of operation, chiefly due to the necessity of acquiring more staff in the Chicago office, the projected budget for 1954 has been set at \$105,031. This means that the Canadian Medical Association's share of this estimated expenditure will be \$5,250.

133. At the December meeting of the Board of Commissioners, your representative requested that the Bulletin of the Joint Commission be translated into the French language for circulation to the French speaking hospitals of Canada. It was further requested that the standards and certificates for accreditation be translated and printed in the French language for those hospitals so desiring them. The Board of Commissioners have complied with this request.

134. Although the standards of Accreditation are still essentially those laid down by the American College of Surgeons prior to their vacating the field of hospital inspection and accreditation, certain changes are being made by the Joint Commission in those standards. These changes are being brought about on a very gradual basis and every attempt is being made to simplify the standards without jeopardizing their quality. All the component bodies of the Joint Commission are now employing hospital surveyors and, working in Canada in addition to the surveyors employed by the Canadian Commission on Hospital Accreditation, is a full time surveyor employed by the American Hospital Association and a part-time surveyor who is bilingual and who will survey certain hospitals in Eastern Canada. In addition to these two surveyors a third part-time surveyor representing the American College of Surgeons will survey certain hospitals in Canada which have cancer facilities. There are now 22 field representatives working under the Joint Commission in Canada and the United States.

135. During the year 1953 there have been a total of 1,295 hospitals surveyed in Canada and the United States. The following table demonstrates the results of that survey.

Accreditation Status of Höspitals Surveyed in 1953 in Canada and U.S.A.

Total...... F.A. P.A. N.A. 1,295...... 949 204 142

136. During the year 1953, 90 hospitals were surveyed in Canada and the following table illustrates the results of that survey.

Accreditation Status of Hospitals Surveyed in 1953 in Canada

Total..... F.A. P.A. N.A. 90..... 60 13 17

It was announced at the April meeting of the Joint Commission on Accreditation that 75% of all hospitals in the United States over 25-bed capacity have now been either fully or provisionally accredited.

137. It was with regret that the Joint Commission accepted the resignation of Dr. Edwin Crosby, the Director who has become the Secretary of the American Hospital Association. Dr. Kenneth B. Babcock of Detroit has been secured to replace Dr. Crosby.

138. It is with some pride that we, as Canadians, note that Dr. Newell W. Philpott of Montreal is the new Chairman of the Joint Commission on Accreditation of Hospitals.

139. The Canadian representatives on the Joint Commission have received the greatest courtesy and cooperation from their fellow members of the Joint Commission. This has been particularly evidenced by the willingness of the Commission to recognize the bilingual nature of our country and to have publications printed in the French language where necessary.

OBSERVATIONS

140. After being your representative on the Joint Commission for the past 2½ years, I would beg to make the following observations. The increase in the budget of the Joint Commission has caused me some concern and I would like to call the attention of this Council to the difficulties one faces in attempting to control the expenses of an international organization where we only have one vote in twenty. Although the practice of medicine in the United States is very similar to that in Canada, considerable time is consumed at meetings of the Joint Commission on matters which are of very little concern to Canadian medicine or to Canadian Hospital practice.

141. However, on the credit side we must admit that by our membership in the Joint Commission, we are

gaining valuable knowledge in the operation of a programme of accreditation of hospitals. We are further maintaining uniform hospital standards between Canada and the United States which is undoubtedly useful in the interchange of our postgraduate students, interns and nurses. It is still my opinion that our ultimate goal in Canada should be the operation of a purely Canadian programme by Canadians and for Canadians correlated on a top level with the corresponding programme in the United States. In the meantime our membership on the Joint Commission is a very useful stop-gap until such time as this programme can be financed and operated purely as a Canadian venture.

All of which is respectfully submitted.

E. K. LYON, C.M.A. Representative. Adopted.

REPORT OF THE SPECIAL COMMITTEE ON STANDARDIZATION AND APPROVAL OF HOSPITALS IN CANADA

Mr. Chairman and Members of General Council:

142. At the last annual meeting General Council was advised that there had been formed in Canada, the Canadian Commission on Hospital Accreditation composed of four representatives of the Canadian Medical Association, one representative of l'Association des Médecins de Langue Française du Canada, five members of the Canadian Hospital Association and two members of the Royal College of Physicians and Surgeons of Canada. At the time of our last report there was some doubt as to the degree of participation in the Canadian Commission of two of the constituent organizations. I am happy to be able to report to you that those doubts have been completely resolved and all the component organizations are now functioning together in the Canadian Commission on Hospital Accreditation.

143. The Executive Committee at its first meeting following the meeting of General Council appointed the following to act as representatives on the Canadian Commission on Hospital Accreditation:

Dr. E. K. Lyon, Leamington. Dr. D. A. Thompson, Bathurst. Dr. A. M. Goodwin, Winnipeg. Dr. Newell Philpott, Montreal.

CANADIAN COMMISSION ON HOSPITAL ACCREDITATION

144. The fourth meeting of this organization was held in Toronto on December 3, 1953. All members of your special Committee comprising the C.M.A. representatives on this Commission were present. It was reported by the various members that the six recommendations which were passed by the C.M.A. Council in Winnipeg in June 1953 had been agreed upon by all the constituent bodies with certain provisos and understandings, namely:

145. L'Association des Médecins de Langue Française du Canada approved the six points with the understanding that a bilingual surveyor be appointed if a suitable man could be engaged and that correspondence concerning French hospitals be in the French language.

146. The Royal College of Physicians and Surgeons of Canada representative pointed out that the approval of the College was contingent on their annual contribution being not over \$5,000 and that all surveyor reports be made available to the Royal College and that the Royal College continue to approve Canadian hospitals engaging in training of candidates for the annual examinations by the College.

147. It was estimated that the budget of the Canadian Commission would be \$30,000. This money is to be provided as follows:

C.M.A.								4	seats	\$10,000
C.H.A.								4	seats	10,000
R.C.P.S.								2	seats	5,000
L'A.M.L	.F	.0						1	seat	2,500
C.H.C.C								1	seat	2,500
Tota	al									\$30,000

In striking the budget it was decided to place a surveyor in the field who would be employed by the Canadian Commission on Hospital Accreditation and work directly under the supervision of the Joint Commission on Accreditation. It was estimated that the salary of one surveyor might be \$10,000 with an estimated expenditure of \$9,000 to keep him in the field. In other words, \$19,000 of the proposed budget would be spent on one surveyor and the balance of the budget be divided between office expenses, Commission meetings, and contingency fund.

APPOINTMENT OF SURVEYOR

148. The President of the Canadian Commission, Dr. Gilday, the Vice-President, Dr. E. K. Lyon, the Secretary-Treasurer, Father Bertrand, were appointed a committee

PUBLICITY

149. Certain activities in the field of publicity and education are planned for the near future and several articles have already appeared in various official Journals of the constituent organizations. It is hoped that the surveyors appointed by the Canadian Commission will not only carry out their duties in surveying hospitals but will also act as public relations officers between the Canadian Commission, the medical profession and the hospitals of Canada.

OBSERVATIONS

150. There are in Canada, 853 general hospitals of over 25 beds (excluding military hospitals). Of these hospitals 318 have been at one time or another surveyed for accreditation. This means that well over one-half of our hospitals have not been afforded the opportunity of a survey. This has come about either through a lack of desire to meet standards or through lack of sufficient knowledge of the programme to request a survey.

151. The following table illustrates the present status of Canadian hospitals of twenty-five beds and over.

It should be the aim of our profession to so educate ourselves and our hospital administrators that no hospital in Canada will operate below the basic levels laid down by the Joint Commission. This programme

Province	Hospitals 25 beds and over	Hospitals fully approved	Hospitals provision- ally approved	Hospitals not approved	Hospitals for initial survey	Percentage approved hospitals	Percentage participating in programme
British Columbia	94	15	4	4	4	20.2	28.7
Alberta	83	12	6	4	2	21.6	28.8
Saskatchewan	54	18	2	7	1	37.0	51.9
Manitoba	52	14	4	1	0	34.6	36.5
Ontario	236	79	6	5	1	36.0	38.5
Quebec	218	53	7	0	6	27.4	30.3
Prince Edward Island	7	3	1	1	1	57.0	85.7
New Brunswick	34	13	8	0	1	61.7	64.7
Nova Scotia	58	20	6	0	3	44.8	50.0
Newfoundland	17	3	0	0	3	17.6	35.2
Totals	853	230	44	22	22	32.1	38.3

to select a surveyor. It was pointed out that a surveyor should be preferably a bilingual doctor with a good personality, sound judgment, tact and experience. Following the December meeting of the Canadian Commission, the above named Committee interviewed several applithe above named Committee interviewed several applicants for the position. It was not possible at that time to find a suitable bilingual inspector and on December 31, 1953 Dr. Karl E. Hollis, former Superintendent of Sunnybrook Hospital, was appointed as a surveyor. Dr. Hollis proceeded to Chicago and took the course for surveyors but owing to previous commitments was unable to commence his duties until April 1, 1954. Following this appointment discription was valued by lowing this appointment, dissatisfaction was voiced by l'Association des Médecins de Langue Française du Canada that a bilingual surveyor had not been appointed. Consequently, the staffing Committee again met in Montreal on February 11, 1954 and worked out a solution to the problem. Dr. Hollis is to be employed nine months of the year and we have been fortunate in securing the or the year and we have been fortunate in securing the services of Dr. Jean-Jacques Laurier of Montreal who is a French-Canadian and bilingual. Dr. Laurier is to be employed six months of the year. This will give the Canadian Commission and the hospitals of Canada, fifteen months surveyor time. While it is true, this will increase months surveyor time. While it is true, this will increase the cost of the surveyors' salaries from an estimated expenditure of \$10,000 per year to \$13,000 per year, the Canadian Commission hopes to be able to trim expenditures in other places to meet this added cost. Dr. Hollis began his work in the field on April 1, 1954 and Dr. Laurier has received a course of instruction in Chicago and will begin surveying hospitals as soon as an itinerary can be arranged for him.

will now be speeded up so that this can be accomplished. We will have under this accelerated programme, one fulltime surveyor and one part-time surveyor representing the American Hospital Association, one part-time surveyor representing the American College of Surgeons and two part-time surveyors from the Canadian Commission working in Canada. This, in contrast to one part-time surveyor under the previous programme. As the Chairman of this Special Committee on Standardization and Approval of Hospitals in Canada, I would urge each member of this Consolidate and the state that the hospital is publish by works Council to see to it that the hospital in which he works requests a survey under this programme. All that is necessary is that your hospital be of twenty-five beds or over and that your hospital mail a request for survey to the Joint Commission on Accreditation, 660 North Rush Street, Chicago, Illinois.

RECOMMENDATIONS FOR YOUR CONSIDERATION

- 152. I would recommend
 - That the Canadian Medical Association continue its membership and support of the Joint Com-mission on Accreditation of Hospitals.
 - That the Canadian Medical Association continue to give its full support to the Canadian Com-mission on Accreditation of Hospitals.
 - That the Executive Committee continue this Special Committee on Standardization and Approval of Hospitals in Canada. I would respectfully suggest the name of the Committee be changed to the Committee on Accreditation of Hospitals.

153. I cannot close this report without expressing my thanks and appreciation to the other members of my Committee and would like to especially mention Dr. A. D. Kelly, Deputy General Secretary of the Canadian Medical Association who has given so much valuable assistance and advice in carrying out this work.

154. I feel, Mr. Chairman, that for the first time in four years I have brought you a message of accomplishment rather than hope.

All of which is respectfully submitted.

E. K. LYON, Chairman. Adopted.

Following the conclusion of his report, Dr. Lyon introduced Dr. Karl E. Hollis, recently appointed surveyor of the Canadian Commission on Hospital Accreditation.

Moved by Dr. M. O. Klotz, seconded by Dr. E. K. Lyon,

THAT Council recommend to the Executive Committee that a basis for the integration of functions of the following committees be considered during the forthcoming year.

The Committee on Approval of Hospitals for the Training of Interns.

2. The Special Committee on Standardization and Approval of Hospitals in Canada.

The C.M.A. Representative on the Joint Commission on Accreditation of Hospitals.

4. Such other Committees as may be indicated.

In discussing this resolution, Dr. Lyon stated that much co-ordination of effort might be made by interlocking the activities of these committees. However, it was agreed that these Committees each had considerable work to accomplish at the present time and therefore the object of the resolution was to study such a plan of integration and not to implement it.

Carried.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

Mr. Chairman and Members of General Council:

155. During the past year, no requests have been received by the Committee on Medical Education requiring an expression of opinion.

The report will be limited, therefore, to comments on certain aspects of medical education in Canada which have been discussed in the nucleus committee.

THE MEETING OF THE ASSOCIATION OF CANADIAN MEDICAL COLLEGES

157. The Canadian Medical Association was represented by the Chairman of the Committee on Medical Education at the annual meeting of the Association, which was held in Montreal on November 2, 1953.

158. Dr. Edward L. Turner, recently appointed Secretary of the Council on Medical Education and Hospitals of the American Medical Association, was in attendance

(a) THE COLLEGE OF GENERAL PRACTICE OF CANADA

The Secretary of the Association read letters from Dr. A. D. Kelly, Deputy General Secretary, Canadian Medical Association, explaining the proposal to proceed with the organization of this College. The objectives of the College were reviewed, it being noted that there will be emphasis upon the recognition of merit and skill in general practice. It was noted further that the Canadian Medical Association is in full support of this proposal.

The Secretary of the Association of Canadian Medical Colleges had already prepared a summary of the facilities available in each Faculty of Medicine for post-graduate instruction. This had been forwarded to the Chairman of the Section on General Practice of the Canadian Medical Association.

The appointment of a representative of the Asso-

ciation to serve on the Organizing Committee of the College of General Practice of Canada was authorized.

The Committee on Medical Education feels that the establishment of this College may do much to elevate the standards of general practice and strongly supports its educational objectives.

(b) SURVEYS OF MEDICAL SCHOOLS IN CANADA

The approval of surveys of the medical schools of Canada, on a voluntary basis, to be carried out by representatives of the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges was reported last year. Up to now, two schools have been inspected (a third school was inspected subsequent to the meeting of the Association). The reports concerning these inspections have proved of real value to the institutions concerned.

The principle of having a Canadian representative on each inspection team has proved advantageous. It

on each inspection team has proved advantageous. It was resolved that "the President of the Association, in consultation with the Faculty of Medicine to be inspected, should nominate a representative to accompany the representatives of the above-mentioned agencies when a

Canadian school is visited".

(c) EDUCATIONAL SUPPLEMENT TO THE CANADIAN MEDICAL ASSOCIATION JOURNAL

It was suggested that the Journal of the Canadian Medical Association should publish an educational number annually, with inclusion of information about graduate training and that the Clarks ate training and that the Chairman of the Committee on Medical Education should be asked to represent the Association in canvassing this possibility.

Your Committee recommends that an Educational Number of the Canadian Medical Association Journal be undertaken. In the space which is made available, it is recommended that there be:

A general report concerning each medical school in Canada;

2. Articles on medical education, including new approaches to teaching; and

3. Information about British Medical Schools and British Hospitals, including opportunities for postgraduate training.

(d) Course in Public Relations for Undergraduate MEDICAL STUDENTS

The proposal had been made to the Association of Canadian Medical Colleges that a course in public relations be established in the undergraduate medical

curriculum.

Your Committee agrees with the view of the Association that such a course should not be instituted on a formal basis. It does feel that each school has an obligation to help the student understand his place in society and his obligation to help to maintain the prestige and respect which is accorded physicians. However, the Committee feels that the recent graduate will acquire perspective about good public relations if he has been well instructed in medical ethics and medical economics while an undergraduate student.

Adopted.

THE METRIC SYSTEM IN PRESCRIBING

159. For a good many years, the question has been raised within and outside the medical colleges about adoption of the metric system in prescribing. This is an item in the agenda of the Association of Canadian Medical Colleges meeting in October. Your Committee feels

that the metric system should be brought into general use and that positive steps should be taken to encourage the practising profession to use it. The Committee favours limitation of student teaching to the metric system.

FIRST WORLD CONFERENCE ON MEDICAL EDUCATION

160. The Committee on Medical Education wishes to congratulate the World Medical Association on the success of the First World Conference on Medical Education which was held in London in August in collaboration which was held in London in August in collabora-tion with the World Health Organization, the Council for International Organization of the Medical Sciences, and the International Association of Universities. The Conference demonstrated that medical schools have the same problems throughout the civilized world. Among these are student selection, increasingly crowded cur-ricula, and neglect of the humanities and social sciences. The participants in the Conference were unanimous in subscribing to the need for better integration of the subject matter in the curricula of medical schools.

Adopted.

Dr. Routley advised that the Council of the World Medical Association had proposed holding a second Conference on Medical Education in 1958 or 1959. It had also been recommended that it be held in North America, specifically in the U.S., and that the General Assembly of the World Medical Association be held in Canada immediately following the conference.

Moved by Dr. M. M. Weaver, seconded by Dr. G. I. Sawyer,

> THAT General Council go on record as favouring North America as the site for the second World Conference on Medical Education which is to take place in 1958 or 1959.
>
> Carried.

GRADUATION OF FIRST MEDICAL CLASS AT UNIVERSITY OF BRITISH COLUMBIA AND UNIVERSITY OF SASKATCHEWAN

The Committee notes with gratification the graduation of the first class in medicine at the University of British Columbia. This youngest medical school in Canada will henceforth contribute about sixty physicians annually to the practising profession of the Dominion. It is a pleasure also to note that beginning with the fall term in 1955, the Faculty of Medicine of the University of Saskatchewan will function as a four-year school and will graduate its first class in 1957.

All of which is respectfully submitted.

M. M. WEAVER.

Chairman.

The following resolution was then presented:

Moved by Dr. G. I. Sawyer, seconded by Dr. W. V. Johnston,

THAT WHEREAS the Canadian Medical Associa-tion has been interested in post-graduate educa-tion for many years and

WHEREAS all Divisions are now engaged in an expanding programme of post-graduate medical education and

Whereas financial assistance from sources outside our Association is not always available nor

THEREFORE BE IT RESOLVED that this Council approves in principle the allocation of funds for this purpose to be made available annually to the Divisions on an equitable basis and instructs the Executive to explore ways and means by which this may be implemented, reporting to Council at its next meeting.

Carried.

Report adopted as amended.

REPORT OF THE COMMITTEE ON SCHOOLS FOR LABORATORY TECHNOLOGISTS

Mr. Chairman and Members of General Council:

162. Your Committee on Approval of Schools for Laboratory Technologists has consisted of the following members during the year 1953-54.

Dr. J. W. Macgregor, Edmonton, Alberta, Chairman

Dr. W. L. Donohue, Toronto, Ontario Dr. W. J. Deadman, Hamilton, Ontario Dr. Daniel Nicholson, Winnipeg, Manitoba Dr. George Shanks, Victoria, British Columbia Dr. D. F. Moore, Saskatoon, Saskatchewan.

163. During the year three hospitals applied for recognition as training centres for Laboratory Technologists (General Certificate), and received the approval of your Committee. Two other applications have been received, and will be dealt with following inspection by a qualified observer.

164. With the addition of the hospitals approved this year, the number of hospitals qualified to offer training for Laboratory Technologists in Canada is now 68.

165. The shortage of adequately trained technicians in hospital laboratories is a matter of increasing concern, and is worthy of the serious consideration of interested groups.

166. Short-term training periods for technicians continue to be suggested as a solution to the problem. It is the opinion of your Committee that this type of training offers no real solution, since the problem is not one merely of increasing laboratory personnel, but of maintaining and extending technical help at a high level of efficiency. It must be recognized that only adequately or efficiency. It must be recognized that only adequately trained technical assistants can be depended upon to carry out the wide range of laboratory procedures now requested, and that in many instances such tests may have to be performed without supervision. The maintenance of laboratory standards is of importance to every practitioner, and it is the hope of your Committee that the profession will not countenance lowering of standards for the sake of empediatory. for the sake of expediency

167. It is recommended that the members of this Committee working with other interested groups continue to seek for a satisfactory answer to this important problem. It would appear to your Committee that a National Conference of the various groups interested in technical laboratory training might offer a great deal in deciding how the problem may best be attacked, and that chan-nels through which such a meeting might be sponsored,

continue to be explored.

All of which is respectfully submitted.

J. W. MACGREGOR, Chairman. Adopted.

REPORT OF THE COMMITTEE ON ECONOMICS

Mr. Chairman and Members of General Council: 168. The Committee has held meetings in November 1953 and April 1954 in Toronto. Each meeting lasted two days and was attended by the Chairmen of the Divisional Committees on Economics and by the Secretariat. The Divisions are represented on this Committee by the following:

following:
British Columbia—Dr. P. O. Lehmann.
Alberta—Dr. M. A. R. Young.
Saskatchewan—Dr. J. Lloyd Brown.
Manitoba—Dr. D. L. Scott.
Ontario—Dr. W. S. Butler.
Quebec—Dr. J. G. Howlett.
New Brunswick—Dr. A. F. VanWart.
Nova Scotia—Dr. H. J. Devereux.
Prince Edward Island—Dr. L. E. Prowse.
Newfoundland—Dr. H. D. Roberts.

169. Authority was given the Executive Committee by General Council to appoint additional staff in the Central Office to co-ordinate the activities in medical economics. This cannot be done by a member engaged in practice. Your Committee recommended that it would be done better by someone outside the profession with special training in this work, who would bring a different viewpoint to our deliberations. This authority has been put into effect and we have been fortunate to have Dr. M. G. Taylor assume a consultant relationship with us this year. Dr. Taylor has already published a study on the Provincial Survey Reports in the Journal and presently is reviewing the impact of the recent Federal Health Grants. We feel that his special knowledge will be very valuable to the Association.

Adopted.

Dr. Richardson then introduced Dr. Malcolm Taylor to the members of General Council.

170. The Provincial Health Survey Reports, and the opinions of the Divisions on them, were reviewed. It was noted that agreement had been reached with many recommendations and that, in certain instances, the opposition of the Division had been recorded with the Government. Many of the Divisions had representatives in the work of the Survey Committees and this participation was reflected in the reports. In several provinces Governments declined to regard the Survey Report, or its recommendations, as necessarily reflecting Government policy. While the recommendations will be a provincial responsibility and therefore a more immediate concern of the Divisions, the cumulative effect of the proposals from the provinces is likely to influence the direction of the National Health Grants Programme and in this respect the outcome of the ten surveys assumes national importance.

Adopted.

171. The enquiry into the operation of the Sick Mariners' Fund was continued this year. The legislation originated in 1867 and was designed to provide treatment for crews of ships in the foreign trade who might be left in Canada without means for the payment of medical care, often for prolonged periods of time. This matter is very involved, indeed, it is international, but concerns only some of our Divisions. Negotiations with the Government Department concerned has resulted in some hope of improvement in administration problems, but the scheme does not have sufficient funds at its command to pay for adequate medical care. Your Committee is of the opinion that it is a problem to be settled at the local level and the Divisional Chairmen concerned are proceeding on that basis.

Moved by Dr. R. G. Large, seconded by Dr. J. F. Tysoe,

That General Council instruct the Executive to pursue actively negotiations with the Federal Government in the matter of Sick Mariners' Benefits and that the immediate objective of such negotiations be the removal of the domestic fishing fleet and Canadian Government coastal vessels from the Sick Mariners' Fund and that these be covered under some other scheme which will supply adequate remuneration for medical services.

Carried.

Section 171 adopted as amended.

172. The Schedule of Fees of the Department of Veterans' Affairs was discussed at the last meeting of General Council. By resolution, the Executive was instructed to appoint a Committee to reconsider with the Department the whole question of a schedule of fees for medical services and was given authority to deal with the matter as they saw fit. The Executive delegated this duty to your Committee. Negotiations were immediately commenced with the D.V.A. and have been continued during the year. Until they are completed, it will be possible to report only our proposals.

173. Last year General Council rejected the proposition that the Department be persuaded to adopt the minimum fees prescribed by the ten Provincial Tariffs. Our proposal to the Department was put forward in two parts; first, an adjustment of payment for office and house calls and, secondly, an increase of 20% of the fees for all other items scheduled. This percentage was based on the increased costs of practice and living since 1946 when the present schedule came into effect. The Department intimated that the first part of our proposal seemed possible, but studies made by them showed that the second part of our proposal could not be possible because it would make the schedule in respect of many procedures in excess of several Provincial Fee Schedules. The Committee considered the relationship of Provincial Fee Schedules one with the other and noted that, in some cases, the Division took responsibility for drawing up the tariff while in others this was a function of the Provincial Medical Licensing authority. Variation in costs of practice, as well as regional economic conditions, are reflected in the schedules.

174. We have learned that Treasury Board is now considering the first part of our proposals but, until this has been dealt with, the Department is reluctant to enter further negotiations on the second part. It is evident that we will find difficulty in having any item increased above that of the lowest provincial schedule. As long as economic conditions are not similar across Canada, we cannot expect to have a national tariff. However, most provincial schedules are used only as a guide and, in general, fees depend on varying circumstances. There is therefore a necessity for some Divisions to review their tariff schedules with these points in mind. It is hoped that a supplementary report will be possible at the time of our Annual Meeting.

Adopted.

Considerable discussion resulted concerning the D.V.A. and various Provincial schedules of fees.

Moved by Dr. E. C. McCoy, seconded by Dr. G. Johnston,

That the existing D.V.A. schedule of fees be abandoned and that in dealing with all Federal Government departments for medical services Provincial fee schedules be used as a basis of payment.

Motion Defeated.

175. The Committee was authorized to pursue a more equitable arrangement with the Indian Health Services. The Medical Director of that Department attended a meeting of your Committee and presented a new Schedule of Fees for Indian Health Services. From a preamble to this schedule the following points were interpreted by your Committee. The Indian Health Services is primarily a Public Health Service directed towards the improvement of the health of the Indian communities. Where necessary it assists in the curative care of those who are not able to make arrangements for themselves, but it does not purport to be an allembracing treatment service. Those Indians who are able to do so, should be expected to adopt the pattern of medical care common in the area. Doctors not connected with Indian Health Services should regard Indian patients who consult them privately, to be normally responsible for their medical accounts. For the remainder, Indian Health Services negotiates with local practitioners and treatment services. Where no such arrangement has been entered into, Indian Health Services does not assume responsibility for ensuing accounts. The Indian Health Services is not fundamentally a curative service. The Department regards this schedule as a reasonable contribution towards the care of those who would not otherwise be able to obtain treatment and regards it as a tariff for indigent patients.

176. It is apparent that the Federal Government does not consider the Indian a responsibility for full medical care but is willing to make some contribution towards an Indian who is living away from his reserva-

tion and who is indigent. After careful consideration, your Committee is of the opinion, that at this time, it would not be wise for the Association to officially recognize, or make a contract with the Federal Government for a schedule of fees designed for indigents.

177. During the discussion of the above item, a new concept of Government Fee Schedules was considered. It was noted that the Federal Government assumes responsibility in medical care for several groups through various departments. Rather than negotiate with several departments and have multiple schedules, it would be desirable to have one Federal Schedule which would be basic and represent an average of the schedules across Canada. It would then be possible to apply this schedule with suitable modifications, where justifiable, to the varying requirements of the different departments. Under such a device negotiations would be greatly simplified with Treasury Board and with what we have found to be intricate Government procedure. This idea should be further explored by the incoming Committee.

178. At the last meeting of General Council, your Committee reported on an incompleted study of the medical care provided by governments for the Social Welfare and Pensioners' Group in each province. This group consists of all those who are receiving pensions from governments and includes Widows, Blind Pensioners, Old Age Pensioners and Government Wards. It was reported that the schemes were in operation for some years in four provinces in which the provincial government makes a per capita grant to the profession government makes a per capita grant to the profession and allows it to administer the service and to prorate the accounts as the funds permit. The methods vary from province to province but have worked out to the satisfaction of the governments, the doctors and the recipients of public assistance. In the other provinces the medical care of this group varies greatly. Some of these people are provided for by municipal authority, some are cared for by private organizations, but many have to depend on the charity of the doctor. In some localities this has been an unfair burden for the prolocalities this has been an unfair burden for the profession or for paying patients who, by transference of these costs, are required to pay these as well as their

This year study was continued and a report submitted by a sub-committee under Dr. J. Lloyd Brown. The first point to receive the attention of your Committee was on the advisability of the Association's sponsoring such plans and advocating their application in the other provinces. On this a number of factors must be remem-bered. It is our hope that members of the T.C.M.P. will have eventual jurisdiction over Social Assistance cases as well as general subscribers in the voluntary schemes. All present contracts for these groups are totally unrelated to the voluntary group type of care and do not fully conform the voluntary group type of care and do not fully conform to our Principles or our Statement of Policy. The latter do not approve of the per capita rate as a means of finance and do not agree to provide full medical care under such a rigid fund, with therefore a ceiling on costs. It was realized that great care must be exercised to safeguard against precedents in any interim scheme which might later militate against us, when and if the Social Assistance group is incorporated into voluntary plan type of care. However, if these factors are remem-bered, it seems advisable to continue these schemes and bered, it seems advisable to continue these schemes and indeed advocate them in the other provinces, in order to stimulate government thinking and obtain agreement to the principle of government responsibility for medical care of this group. This would subsequently facilitate inclusion of this group in an overall scheme.

180. Your Committee is of the opinion that any interim plan advocated and endorsed officially by us should conform with the adopted principles of the Association unless it is entered into strictly on the understanding with government that—(1) it be conducted as an experiment to obtain data on costs and administration; (2) that the Division be not held responsible by way

of precedent or prejudice in respect of any clause in the agreement, which might in a subsequent plan of the agreement, which might in a subsequent plan of care require change in any respect. With the above in mind, your Committee has prepared a basic plan for medical care of the Social Assistance Group to be used as a guide by the Divisions, should they see fit to negotiate such a scheme with their provincial governments. This is now available through Central Office.

181. As instructed by General Council, the Committee have continued to examine the Statement of Policy made in 1949 with the object of finding out whether or not it required revision. There seems to be some misunderstanding outside the profession as to the attitude of our Association on National Health Insurance. It has been stated that our Association is opposed to National Health Insurance. This is not true. As far back as 1930 the Canadian Medical Association was seriously as 1930 the Canadian Medical Association was seriously considering the many facets of health insurance. In 1934, after considerable discussion, the Association declared itself as definitely in favour of some plan of health insurance and, in 1944, when a Government Bill of Health Insurance appeared imminent, set forth its position in a series of principles which it continues to support. In 1949 the General Council adopted a Statement of Policy in which it again endorsed the adoption ment of Policy in which it again endorsed the adoption of the principles of health insurance. The misunderstanding may be due to the use of the terms "state medicine" and "health insurance" interchangeably. Well informed opinion today draws a sharp line between the terms and it is known that state medicine means complete regimentation of the medical services by the State, while health insurance means a pooling of financial resources by the prepayment of insurance premiums whereby illnesses can be budgeted for in advance and there is complete freedom of choice of doctor and patient with the least amount of interposition of a third party between the physician and his patient.

The Divisional Chairmen brought the opinion of their Divisional Executives to the Committee. The majority of Divisions suggested only changes in word-ing for clearer interpretation. One Division advocated that the Principles and Statement should be replaced by an entirely new Statement. The Committee is mindful that the Statement had been drawn up by a special committee representative of every Division. Like all fundamental statements, the terminology used was a compromise between the views of a large number of individuals and their sectional interests. The Statement of Policy symptometric but the did not explain the Principles. Policy supplemented, but did not replace, the Principles Relating to Health Insurance of 1944. This study is not Relating to Health Insurance of 1944. This study is not yet completed and this must be only a progress report. At the present time the Committee is of the opinion that the Principles and the Statement of Policy should be kept without change and that it might be helpful to draw up a consolidation of the two documents which would clarify their interpretation. This is being proceeded with and, when it is completed, the Committee will report to the Executive.

183. The impact on medical practice of the recent Federal Health Grants has been studied during the year by a sub-committee under Dr. M. A. R. Young. A record is being kept of the use of these grants in each of the provinces and a questionnaire has been sent out to some of the projects and those in charge of them so that we can keep abreast with the developments. An effort is being made to obtain as much factual informa-tion as possible regarding the value of various grant projects in local communities. The provinces differ greatly in the utilization of these grants to date. No pattern of utilization has emerged although the training of technical personnel is the most widespread. In some of the provinces precedents are being established which may set the pattern for the future. It would appear that under radiological and laboratory services, the immediate need is for trained personnel and the funds available will first be used for the provision of such training. The Maternal and Child Welfare grant is receiving the most favourable consideration. There is need for a definite educational programme. Three provinces stress that work under this grant should be at the community level, two recommending that it be carried out through the Health Units. The fact that this is an outright grant makes its acceptance more likely. The Rehabilitation Grant opens up an enormous undeveloped field. Co-ordinators have been appointed in several of the provinces. The solution of the problem of eligibility is not easy. Two provinces have suggested that the funds available under this grant are inadequate. It will be at least a year before the impact on medical practice will be apparent.

Adopted.

184. The following resolution was passed at the last meeting of General Council:

"That the Executive Committee be requested to sponsor a meeting of the Chairmen of Divisional Tariff Committees and representatives of the Committee on Economics of the C.M.A., looking to the study of medical fees on a rational basis."

The Executive referred this to your Committee. The proposition that all fees for medical procedures should have a relationship one with the other, has been receiving the attention of Tariff Committees in several Divisions. An attempt has been made to set a unit of value for a certain procedure and use this as a yardstick to all other procedures. By this method it is hoped that a more equitable scale of fees will be found. The necessity for this is becoming more salient, especially in the prepayment plans where there is a definite fund available to be divided among the participating medical members. Whether or not an agreement could be reached on such a postulate remains to be seen. Your Committee is aware of studies relating to this proposition, particularly in the Ontario Division and in the British Columbia Division. Until these studies are completed, your Committee is of the opinion that we are not yet ready for such a meeting as proposed by the resolution.

Adopted.

185. The reports to insurance companies for sickness and casualty benefits have continued to be a study of a sub-committee. These reports are often time-consuming and a source of great annoyance to the busy practitioner. They are often requested long after the patient has finished treatment and the files in the office and even the hospital have to be searched in order to complete them. Some forms require much information which is irrelevant to the case. The sub-committee has worked with the object of correcting this. The forms of most of the companies have been reviewed. Those previously brought forward by the Ontario Division proved to be the most suitable with some modification. With the advice of insurance executives, standard, simplified types have been drawn up. It is expected that these will be acceptable to the majority of insurance companies. Some of the non-tariff companies may not readily co-operate. If this happens, we may have to insist that only approved forms will be filled out by our members. Many of the companies leave the patient responsible for the cost because this is an agreement in the policy. In such cases we are asking the companies to state this prominently on the forms.

Adonted

186. In considering insurance forms, the question arose regarding the ethical and legal aspects of disclosing private medical information to insurance companies or to the Personnel Department of the patient's employer. The problem was submitted to our Committee on Ethics, the Canadian Medical Protective Association, a large insurance company, and our solicitors. The replies received were very comprehensive. Your Committee felt that this was too involved for

those interested in mere economic matters and the Secretariat will attempt to consolidate this opinion. In the meantime it seems imperative that the reporting doctor must be sure that he has the authority of the patient not only to answer the questions, but also the authority of the patient to send the information to the party to whom it is sent.

Adopted.

187. The prepaid medical care plans are the most important subject in our medical economics. This has been so, ever since the Association made a Statement of Policy in 1949, in which approval was given to the adoption of the principle of health insurance. That Statement proposed the establishment and/or extension of voluntary prepaid medical plans to cover Canada. We have held four general meetings of our Association since that time and that policy has not been altered in any way nor has anyone proposed a better method of meeting the public demand to spread the costs of medical care.

188. Considerable progress has been made by the individual plans in the last few years. Most of the plans are able to give the subscriber a choice of complete or partial coverage. Some plans are permitting individuals to enrol. The exclusions and waiting periods are gradually being reduced. It is obvious that the amount of the premiums paid by the subscriber will control the benefits. Any of the plans could abolish its waiting periods, exclusions and limitations, if the premium was high enough to do so. The plan attempts to give the type of coverage that is demanded in that particular community. In four provinces, namely, Quebec, New Brunswick, Prince Edward Island and Newfoundland, no comprehensive service plan is available. In these provinces coverage is limited to treatment while in hospital. However, there are indications that this will gradually be corrected and it is likely that we shall be able to offer comprehensive coverage across Canada in the foreseeable future. No one can do more towards reaching this goal than the individual practitioner. The Plans or the Divisions cannot advance without this co-operation and stimulus.

189. The prepaid plans continue to be criticized by those who advocate government operated health insurance even though they speak of it as a contributory health insurance. These critics point out that the premiums cannot be paid by all the people and that individuals cannot always enrol. The premiums are admittedly too costly for everyone in the community. They have been set for the average citizen who ordinarily is expected to pay for his medical care. The medical indigents cannot come into the scheme and are still being looked after gratis by the doctor in the office or home or in the public wards of hospitals. This is where the responsibility of the State begins. Clause 6 (c) of the Statement of Policy reads:

"The provision by the State of the health insurance premium in whole or in part for those who are adjudged to be unable to provide these premiums for themselves."

We have also been criticized for not proposing a definite method for the State to meet this provision. Surely this is not the scope of the medical profession alone. General Council is on record that we believe it is the duty of Government to work out the details of how this subsidy can be made and to whom it should apply.

Adopted.

190. At first the plans sponsored by the profession in the provinces were local projects. After our Statement of Policy in 1949, it became apparent that these independent plans should be linked up in some way. The history of this has already been reported to Council but will be retold, in brief, for the benefit of new members. In June 1951, these autonomous plans were brought together under the auspices of the Canadian

Medical Association through the Committee on Eco-nomics and the plans agreed to form an organization which is now called the Trans-Canada Medical Plans. which is now called the Trans-Canada Medical Plans. It is managed by a Commission consisting of one representative from each of the member plans and a representative from the C.M.A. Your Chairman has had the privilege of this appointment. In order to have full membership in the T.C.M.P. with a seat on the Commission, a prepaid plan must meet certain standards in the commission. in the services offered to its subscribers. For those plans which do not meet the standards, there is the opportunity of an associate membership.

191. The T.C.M.P. aims to bind the autonomous plans together so that eventually their subscribers may move from one part of Canada to another with continuous of their invariance and to make it with the continuous continu tinuance of their insurance and to make it possible for national employers to insure their employees across Canada under the same contract. It fulfils the need for pooling the knowledge and experience of all our sponsored plans. For this reason alone it has been worthy of our support. More and more, T.C.M.P. is assuming its place as the national authority for the prepaid medical care plans in Canada. Its influence upon individual plans, and its assistance to individual plans, is becoming increasingly recognized by all.

192. Your Chairman has attempted to keep informed on the progress that has been made. An interplan transfer arrangement has been carefully worked out and is now largely applicable through Canada. Continuing problems exist in one or two provinces but these, we understand, are being overcome by the provinces concerned. This has been one of the complaints of organized labour. It is the expectation that it will soon be the right of every Canadian, once covered by a member plan of Trans-Canada, to maintain his seniority of membership wherever he may move across the country.

193. The provision of a national contract for employers has not been as successful. There are several reasons for this. We cannot offer an employer a contract giving identical coverage for his employees in all provinces. In four provinces our plans do not have comprehensive coverage. The employee can have only the coverage which is available, and in such cases the arrangement provides that each plan bills the provincial branch of such company. This will not be overcome until all provinces have a comprehensive coverage plan.

194. Another situation which has appeared is the system of national bargaining by management and labour covering wide sections of employees under particular unions or groups, and also the pressure and effect of insurance companies selling the employer the idea of a insurance companies selling the employer the idea of a single plan with a single payroll deduction, covering employees on a standard arrangement wherever they may be located. To meet these trends, Trans-Canada Medical Plans must proceed to an alternative method, namely, a national contract. Over the past few months considerable attention has been given to this problem and a National Syndicated Contract has been prepared and sent out to the member plans for their consideration and approval. This contract, if adopted, will give us one further aid in providing prepaid medical care across

195. In other fields of public, government and physician relationship, Trans-Canada Medical Plans have, over the past year, made some worthwhile strides. Already the public is coming to understand that there is
an alternative to government-run health insurance.
T.C.M.P. as the creature of organized medicine has had
some part to play in the increasing recognition by the some part to play in the increasing recognition by the public of the value of a voluntary approach to meet the costs of personal health services. As witnessed by the 1953 enrolment figures, there has been another substantial growth this past year. Two new plans, namely, Maritime Hospital Service Association and Quebec Hospital Service Association, became members for the first time this past year and increased the membership of the organization some 750,000. There was at the same time an overall increase in enrolment in the member

plans themselves of almost 200,000 persons, making in all an increase of almost 1,000,000 persons over the size of the organization slightly more than a year ago. At the end of 1953, nearly 2,000,000 people were enrolled and this figure should be reached by the time of our Annual

196. This Association was instrumental in bringing these autonomous plans together in order that a prepaid medical care system might be established across Canada. We have a representative on the Commission. We must contribute our share of the costs. Your Committee therefore recommends that the Canadian Medical Association contribute the sum of \$4,000.00 to Trans-Canada Medical Plans for the year 1954, in order to assist that organization to carry out its objectives.

The question was raised whether the C.M.A. was contributing enough funds to T.C.M.P. in relation to other contributors. Following extensive debate on this

subject, Sections 190 to 196 were adopted.

197. At the last two meetings of General Council the Committee on Economics was authorized to hold two meetings during the year. These meetings are most valuable for the exchange of ideas on economic matters between the Divisions. They have done much to consolidate opinion on our problems across Canada. There solidate opinion on our problems across Canada. There is necessity to strive for more unanimity in our thinking if we are to be in a position to reach our objectives. Many of the studies of the Committee extend over more than one year. Indeed, some are recurring subjects. It has been noted that the Divisions are best represented when the Divisional Chairman is not replaced too frequently. The Divisions should give consideration to having an understudy sit in with the Committee for a year before changing their representative.

198. The Committee therefore recommends that the Executive Committee be instructed to make budgetary provision to permit the payment of the expenses of each Divisional Chairman of the Committee on Economics, or an alternate, to attend two meetings and such other similar meetings as may be authorized by the Executive Committee.

All of which is respectfully submitted.

ROY W. RICHARDSON,

Chairman.

Moved by Dr. R. W. Richardson, seconded by Dr. E. S. Mills,

> THAT the report of the Committee on Economics with amendments and addenda be adopted.

Carried.

Moved by Dr. J. B. Ritchie, seconded by Dr. H. T. Ewart,

That a hearty vote of thanks be extended to Dr. Richardson and the Committee on Economics for the work that they have done. Carried.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee met at 5.15 p.m. on Monday, June 14, with all members present. Dr. C. W. Burns, President, was in the chair. The following nominations were submitted:

- 1. For the Office of President-Elect-Dr. T. C. Routley, Toronto.
- 2. For the Office of Chairman of General Council-Dr. N. H. Gosse, Halifax.
- 3. For the Office of Honorary Treasurer-Dr. E. S. Mills, Montreal. Members of the Executive Committee:

- British Columbia-Dr. J. A. Ganshorn, Vancouver; alternate-Dr. F. A. Turnbull, Vancouver.
- Alberta-Dr. R. M. Parsons, Red Deer; alternate-Dr. S. M. Schmaltz, Lethbridge.
- Saskatchewan-Dr. F. E. Werthenbach, Unity; alternate-Dr. C. L. Tisdale, Prince Albert.
- Manitoba—Dr. R. W. Richardson, Winnipeg; alternate—Dr. D. L. Scott, Winnipeg.
- Ontario-Dr. H. T. Ewart, Hamilton; Dr. R. M. Mitchell, Sudbury; Dr. M. O. Klotz, Ottawa; alternate-Dr. M. C. Harvey, Kitchener.
- Quebec-Dr. W. deM. Scriver, Montreal; Dr. J. R. Lemieux, Quebec; Dr. G. W. Halpenny, Montreal; alternate-Dr. J. F. Meakins, Montreal.
- New Brunswick-Dr. C. L. Gass, Sackville; alternate-Dr. J. H. M. Rice, Campbellton.
- Nova Scotia-Dr. A. G. MacLeod, Dartmouth; alternate-Dr. A. A. Giffin, Kentville.
- Prince Edward Island-Dr. W. J. P. MacMillan, Charlottetown; alternate-Dr. R. F. Seaman, Charlottetown.
- Newfoundland—Dr. John A. Walsh, Manuels; alternate—Dr. A. McNamara, St. John's.

Elections:

On receiving the recommendations of the Nominating Committee, the Chairman called for nominations from the floor of General Council for each position in turn. As no further nominations were made, the General Secretary was instructed to cast a ballot for the election of the gentlemen named. They were declared to be constitutionally elected.

REPORT OF THE COMMITTEE ON ETHICS

Mr. Chairman and Members of General Council:

- 199. At the last meeting of Council, that part of the report of the Committee on Ethics recommending that efforts be made to secure identical Codes of Ethics for the Canadian Medical Association and the Royal College of Physicians and Surgeons of Canada, was approved, and the incoming Committee was instructed accordingly.
- 200. The nucleus of your committee was composed of the following members—Drs. Murray Baird, Murray Blair, R. B. Kerr, T. H. Lennie, J. H. MacDermot, Ethlyn Trapp and Wallace Wilson.
- 201. The President of the Royal College of Physicians and Surgeons of Canada appointed Drs. Murray Baird and H. Rocke Robertson as representatives of the College to join with your committee in an attempt to obtain a unified code that would be acceptable to both organizations.
- 202. The following recommended changes in our code are herewith submitted and will also be submitted to the Council of the Royal College by its appointed representatives.

SECRET COMMISSIONS

- 203. The present section of our Code of Ethics referring to Secret Commissions reads as follows:
 - "A secret arrangement between two physicians whereby unknown to the patient, one physician receives part of the fee paid to the other, is not consistent with the honour of the profession. Such a practice is dishonest and leads to trafficking in patients. The physician to whom a patient is referred may request the services of the referring physician as anæsthetist or assistant, and if the patient assents to the request, a fee may be charged by the referring physician for the services rendered. Occasions may arise when the complexity or obscurity of an illness demands the services of physicians practising in different fields

- of medicine; in such case a composite fee may be arranged and distributed. Provided the patient is aware of this arrangement, the division of the composite fee does not conflict with the ethics of the profession.
- "The receiving of commissions connected with the sale of a commodity or with the referring of patients is entirely unethical conduct.
- "'It is undesirable that medical practitioners should have a proprietary interest in preparations or appliances which it may be their duty to recommend to patients.' (British Medical Association's Decisions.)"
- 204. This section differs somewhat from the section on Commissions of the Code of Ethics of the Royal College, and also in the opinion of the Nucleus Committee needs clarification.
- 205. Therefore, the following revision is recommended to Council.
- 1. The only basis on which a fee may be charged to a patient, or on which money may be received by any medical practitioner, is that of work actually done for the patient, and such patient must receive a direct statement from the medical practitioner concerned. Any other arrangement between two or more medical practitioners, whereby one receives part of the fee paid to the other practitioner, is unethical and may contribute to dishonesty.
- 2. In cases where in the opinion of the attending medical practitioner the services of one or more consultants are required, each such consultant shall render his account and submit his receipt individually.
- 3. In cases where a patient is referred to a surgeon, the practice of having the referring medical practitioner act as an assistant or anæsthetist at an operation should be discouraged unless in the opinion of the operating surgeon such assistance is necessary and the referring medical practitioner is competent for either of these duties by virtue of his training and experience. If so, each practitioner should send his account to the patient individually, provided however that a surgeon who has a regular assistant at operations may pay him directly. When the assistant has referred the patient to the operating surgeon, the assistant should send a statement of his fee directly to the patient.
- 4. If fees are collected by an organized clinic, medical group, medical partnership or medical practitioner employing regular assistants, each such organization is in effect regarded as an individual who acts in that capacity. The same principle applies when the clinic and hospital are combined and operate under the same ownership.
- 5. When a third person or organization enters into a financial arrangement between medical practitioner and patient, each medical practitioner should render an individual account to the third person or organization concerned; if more than one medical practitioner is carrying out professional services a statement to the patient by the third person or organization should show the amount paid to each physician.
- 6. The receiving of commissions connected with the sale of a commodity is entirely unethical conduct.
- Considerable discussion evolved around the meaning of the word "commodity" in Paragraph 205(6) in relation to the private investments of doctors.

Moved by Dr. R. M. Mitchell, seconded by Dr. Cluny Macpherson,

- THAT Section 205(6) be referred to the Resolutions Committee.
- The Resolutions Committee brought in the following resolution:

Moved by Dr. H. T. Ewart, seconded by Dr. R. Vance Ward,

"The receiving of secret commissions connected with the sale, by parties other than himself or his immediate professional associates, of commodities associated with the practice of medicine is entirely unethical conduct. For greater clarity, this prohibition does not imply that it is unethical for a physician or group of physicians to dispense medicine or those commodities associated with his or their practice of medicine." Carried. Sections 199 to 205(6) adopted as amended.

7. "It is undesirable that medical practitioners should have a proprietary interest in preparations or appliances which it may be their duty to recommend to patients." (British Medical Association's Decisions.)

COMMUNICATIONS TO THE LAITY ON MEDICAL SUBJECTS 206. The present section of our Code of Ethics dealing with Communications to the Laity on Medical Subjects is as follows:

"All opinions on medical subjects which are communicated to the laity by any medium, whether it be a public meeting, the lay press, or radio, should be presented as from some organized and recognized medical society or association, and not from an individual physician. Such opinions should represent what is the generally accepted opinion of the medical profession.

"'Discussion in the lay press on disputed points of pathology or treatment should be avoided by physicians; such issues find their appropriate opportunity in the professional societies and the medical journals.' (British Medical Association's Decisions.)

"The practice of medical practitioners taking charge of columns in which answers to correspondents on medical questions are printed, is highly detrimental to the public interest and most improper from a professional point of view.' (British Medical Association's Decisions.)

"A physician acting in a public capacity, e.g., a Health Officer, may issue to the public warnings or notices regarding public health matters under his own name."

207. The following revision of this section is submitted and recommended:

COMMUNICATIONS TO THE LAITY ON MEDICAL SUBJECTS

All opinions on medical subjects which are communicated to the laity by any medium, whether it be a public meeting, the lay press, radio or television should be presented as from some organized and recognized medical society or association and not from an individual physician. Such opinions should represent what is the generally accepted opinion of the medical profession.

When an official body of organized medicine finds it necessary to ask a medical practitioner to make a statement for the public and decides that the circumstances make it necessary that his name be attached to it, the medical practitioner shall be absolved from criticism in so doing. "Discussion in the lay press in disputed points of pathology or treatment should be avoided by physicians, such issues find their appropriate.

"Discussion in the lay press in disputed points of pathology or treatment should be avoided by physicians; such issues find their appropriate opportunity in the professional societies and the medical journals." (British Medical Association's Decisions.)

"The practice of medical practitioners taking charge of columns in which answers to correspondents on medical questions are printed, is highly detrimental to the public interest and most improper from a professional point of view." (British Medical Association's Decisions.)

A physician acting in a public capacity, e.g., a Health Officer, may issue to the public warnings in notices regarding public health matters under his own name.

Adopted.

GROUP PRACTICE AND ETHICS

208. The present section of our Code of Ethics referring to Group Practice and Ethics is as follows:

"Whatever is right and becoming in a physician is equally right for any association of physicians in clinics or other groups, and whatever is obligatory upon the individual is equally obligatory upon the group."

209. The following revision of this section is submitted and recommended:

GROUP PRACTICE AND ETHICS

Whatever is right and becoming in a physician is equally right for any association of physicians in clinics or other groups, and whatever is obligatory upon the individual is equally obligatory upon the group.

It is undesirable and not in keeping with the principles of the medical profession for medical practitioners to practise medicine in partnership with anyone not duly registered to practise medicine.

Adopted.

210. The Committee concurs with the opinion that it is highly desirable that the Code of Ethics should be the same for the Canadian Medical Association and for the Royal College of Physicians and Surgeons of Canada. It is, therefore, recommended that whatever action is taken by Council with reference to these recommended changes in our Code of Ethics be transmitted to the Royal College of Physicians and Surgeons of Canada.

Adopted

211. Your Nucleus Committee are also of the opinion that there are other sections of the Code which, while not differing essentially from similar sections in the Code of the Royal College, would, nevertheless, benefit by re-wording and clarification. It is, therefore, recommended to Council that the incoming Committee on Ethics be asked to complete the revision and that this further revision be done again in co-operation with representatives of the Royal College in an attempt to obtain uniformity in the codes of both bodies.

Adopted

212. Further work of your Nucleus Committee included consideration and action on the following problems which were referred to it during the course of the year.

1. The Committee on By-laws requested this Committee to study the matter of the relationship which should exist between the medical profession and chiropodists. This matter was reviewed in great detail, the Committee having available evidence concerning the training, ethical principles and other details in relation to the practice of chiropody. The following resolution was submitted:

"RESOLVED by the Nucleus Committee on Ethics of the Canadian Medical Association:

That having carefully reviewed the documentary evidence submitted by the Canadian Association of Chiropodists, showing the courses of training prescribed for those wishing to become chiropodists, their pre-academic standards of education, their training in the basic sciences and clinical subjects, their rules of ethics and their work in hospital clinics, together with other details, the Nucleus Committee recommends to the Council: That Chiropody, as prescribed by those men and women who conform to the educational standards of training equal to those set down and approved by the Canadian Association of Chiropodists, be recognized as a profession ancillary to the medical profession:

AND THAT it be regarded as in every way ethical and proper for Medical men to consult with, or be consulted by or to refer patients to, or to have patients referred by chiropodists as defined; and to associate with them professionally.

Various speakers discussed Section 212(1) and it was finally

Moved by Dr. R. C. Dickson, seconded by Dr. E. K. Lyon,

That section 212(1) be referred back to the Committee on Ethics for further study and clarification.

Carried.

2. The Committee on Economics referred a matter concerning medical reports to insurance carriers and other organizations to this Committee for study. The Committee on Ethics submitted the following report concerning this matter:

The Nucleus Committee on Ethics of the Canadian Medical Association has carefully considered the matter which has been referred to it in connection with medical reports to insurance carriers and other organizations.

It must be recognized that with the changing pattern of medical practice, in which third party organizations are involved in the payment of medical fees, strict adherence to the principle of the confidential nature of the information concerning a patient is no longer possible. Physicians are required to supply reports and diagnoses to such organizations by the nature of the contract entered into by the patient and the organization.

It would appear that the main principles involved in this matter are the following:

- (a) The physician must assure himself that his patient, or next-of-kin if necessary, agrees to this information being supplied. The important factor involved in this respect is as to what constitutes assent on the part of the patient.
- (b) The matter of assent constitutes a legal question and the Committee recommends that legal counsel be sought with respect to the meaning and implications of assent.
- (c) If legal opinion is such that it can be taken that assent is implied by either the signing of a permissive clause in the insurance contract or in the request on the part of the patient or next-of-kin that the physician fill in the form, the Committee is of the opinion that the physician is acting in an ethical and legal manner in so filling in such forms. It should be looked upon that the physician is performing a service to his patient in so doing and not revealing any confidence. The fact that the patient has consented to this form being filled in can be considered to absolve the physician of any breach of confidence.
- (d) It is recommended that all forms to be filled in by physicians for such purposes should include a declaration to be signed by the patient or relative stating that assent is given to the physician to supply the information requested. It is also recommended that these forms and declarations be supplied in duplicate to allow the physician to retain a carbon copy.

Several opinions were expressed concerning the ethics involved in the submission of medical reports to insurance carriers, personnel departments and other groups requesting such reports.

Moved by Dr. H. T. Ewart, seconded by Dr. R. M. Mitchell,

THAT Section 212(2) be referred back to the Committee on Ethics for further study. Carried.

3. One of the Divisions referred for consideration and advice the following hypothetical case.

"Three physicians in good standing in a hypothetical city of Canada formed a partnership with two laymen, one of whom is a registered optometrist, and the other a registered pharmacist. They all live in the same city and unite under the name of X Medical Centre.

"They published their certificate of Partnership, intimating that they intend to carry on business and trade as physicians, surgeons, optometrists and pharmacists in the said X city, in partnership under the name and firm of X Medical Centre.

"Among the questions we wish to pose to the committee on Ethics are: 'Is this an ethical arrangement; is it in good taste? What will its effect be on the practice of medicine in the City of X? Is it in the interest of the profession to have a partnership formed with lay people as opposed to lay people working in association with medical men, but not in partnership arrangement?"

"If in the opinion of the Committee on Ethics, it is an association which should be frowned on, what would be the best way to remedy this situation as it now exists?"

The Nucleus Committee, having considered the above matter, submitted the following reply to the Division:

- (a) It is considered that such a partnership of medical practitioners and others not registered to practise medicine is undesirable and not in keeping with the best principles of the practice of medicine.
- (b) It is considered that in entering into such a partnership a medical practitioner places himself in the position of carrying on business connected with his practice in association with non-medical individuals which is not in keeping with the spirit of ethical practice.

The opportunity for financial profit to be gained by the physician through the sale of commodities under such partnership arrangement exists, and this is not in keeping with the ethics of medical practice.

(c) It is pointed out by the committee that in at least one province in Canada it is illegal for such a partnership to be undertaken. The Medical Act in British Columbia, Section 85, states:

"In case a member of the College practises medicine in partnership with or under a contract with, or as a business associate of, any person not entitled to practise medicine, surgery or midwifery, or does any act to enable any such person to practise medicine, surgery, or midwifery, both parties to such partnership, contract, or arrangement, shall be liable on summary conviction, to a penalty not exceeding one hundred dollars and not less than twenty-five dollars, and any member of the College convicted under this Section shall have his name erased from the register by the Council."

The Nucleus Committee sought legal advice with reference to the interpretation of Section 85 of the Medical Act in relation to the above hypothetical case and were informed that the legal opinion sought was that inasmuch as under such hypothetical partnership some of the profits from the practice of medicine by the three doctors would be shared by the two laymen, the partnership must, under the B.C. Medical Act, be considered illegal for all parties concerned.

(d) With regard to what should be done in any other province should such a hypothetical situation become an actuality, the Nucleus Committee can offer no advice. All of which is respectfully submitted.

WALLACE WILSON, Chairman.

Adopted.

Moved by Dr. W. Wilson, seconded by Dr. H. T. Ewart,

That the Report of the Committee on Ethics with deletions, amendments and addenda be adopted.

Carried.

REPORT OF THE SPECIAL COMMITTEE ON REHABILITATION

Mr. Chairman and Members of General Council:

213. Provision for diagnosis and definitive treatment of physical and mental disease has been made in one form or another in most areas of Canada.

214. The treatment of patients suffering from the long-term consequences of illness and injury with or without persisting permanent disability, has been provided for certain categories and in a few localities for all citizens, but for many the facilities are very limited or do not exist at all.

215. The management of the social and economic aspects of disease has lagged far behind except for the few categories for whom a broad range of services have been provided.

216. Successful management of the patient from the onset of the illness and disability requires that he be under the care of a doctor who understands the concept of rehabilitation and who appreciates that diagnosis, definitive medical or surgical or psychiatric treatment, the management of convalescence and the restoration or rehabilitation of the patient, are one continuous process. The doctor should initiate the programme and should be willing and able to work in close co-operation on the team with those representing psychology, vocational guidance, education and rehabilitation counselling, as well as with the more familiar personnel of nursing, physical and occupational therapy and social service. That such an integration of sérvices together with sick or welfare benefits can be achieved has been amply proven by the experience of the Department of Veteran's Affairs, the Workmen's Compensation Board and by private insurance schemes. Hence, the need for further proof does not exist.

217. It is evident that in achieving the results obtained by the Department of Veterans' Affairs and Workmen's Compensation Boards, the fundamental requirement to initiate and perpetuate the service has been adequate funds for building, for employing personnel or for buying the service from established treatment programmes. These two bodies did not wait until trained personnel were available or buildings were constructed, but rather initiated treatment programmes where needed by engaging the necessary persons to do the work, all of which was possible only because money was available to pay for the services as required.

to pay for the services as required.

218. Reference is here made to the resolutions of the committee of medical rehabilitation contained in the proceedings of the conference on the Rehabilitation of the Physically Handicapped—1951—paragraph 8—page 95. Herein the motion is recorded to the effect that there should be a Federal-Provincial programme to provide funds on a shareable basis and administered provincially, to foster, provide and purchase services as the provincial government sees fit, through public, voluntary or other agencies.

219. Implementation of the recommendation would permit of the disabled being referred to existing treat-

ment centres for evaluation, definitive treatment and ultimate rehabilitation. To a certain extent the Department of Veterans' Affairs' services are available for those in certain categories who are able to pay for the service. In general hospitals the fact that adequate payment of the cost of services is made available, would permit of expansion of these services, and concurrently would provide the staff with experience in this field which is tantamount to training the necessary personnel. As the need arose, the facilities in terms of social workers, rehabilitation counsellors, guidance experts and others, could be added to the team of workers, and thus through the practice of treating patients, one by one, the programme would evolve until an adequate service is developed.

220. The recent rehabilitation grant of the National Health Grant Programme has, in fact, established the principle of financial participation of the Federal Government in the development and maintenance of rehabilitation service for disabled civilians.

221. Development along these channels might well prove the answer to the existing need. The manner in which these services are made available is very important. There is no reason why the fee-for-service policy of the Workmen's Compensation Board of Ontario or in certain cases of the Department of Veterans' Affairs, should not be acceptable. Again, the medical profession in several provinces have for many years administered Government funds which have provided medical care for the old age pensioner and others. Government funds could be channelled through voluntary agencies such as the Society for Crippled Children, the Canadian National Institute for the Blind and others.

222. Fundamental to the success of any comprehensive programme of rehabilitation is the recruiting of the appropriate skilled persons who understand the meaning and intent of the term rehabilitation.

223. Finally, then, rehabilitation of the sick and disabled is a medical responsibility, and the medical profession must be educated to this point of view and trained to assume their responsibility in conjunction with the other members of the team.

224. The evolution of a national medical rehabilitation programme must be integrated with the provincial plans already in operation. Through the provincial Division of the Canadian Medical Association, the doctors as a group must be informed about the facilities existing—both the services established and operated by the various provincial governments as well as the services provided by the voluntary agencies such as the Canadian Rheumatism and Arthritis Association, etc.

225. Funds to pay for such services must be made available, preferably on the insurance principle, and prepaid medical plans as now constituted, should be amended where necessary to cover costs of rehabilitation.

226. It is recommended that under the National Health Grant Programme, the funds now available be used to establish rehabilitation demonstration units in teaching hospitals or comparable establishments.

227. These units to consist of rehabilitation, treatment and evaluation teams comprising medical personnel, physical and occupational therapists, nurses, remedial gymnasts, rehabilitation counsellors, social workers, psychologists and others as required.

228. Your Committee recommends that the Canadian Medical Association communicate to the provincial Divisions the above recommendation and urges that they initiate negotiations with government and university groups with a view to implementing this primary step.

All of which is respectfully submitted.

A. T. JOUSSE, Chairman.

Special Committee on Rehabilitation Members: Drs. F. P. Dewar, Bruce Young, H. Hoyle Campbell, Campbell Gardner.

APPENDIX

(A) MEDICAL REHABILITATION WORKING COMMITTEE REPORT

The Committee on Medical Rehabilitation presented two reports to the Conference for its consideration. The first was a report of a medical sub-committee and the second the main report of the Committee itself, inthe second the main report of the Committee itself, including resolutions. The Committee was of the opinion that it was necessary and advisable to pronounce general principles or concepts which should, in part at least, govern a rehabilitation programme and in particular the medical side of such a programme. The medical sub-committee of this Committee, made up of Drs. E. H. Botterell, Hoyle T. Campbell, Campbell Gardner, F. D. Mott, and K. C. Charron, arranged certain principles and concepts which were submitted as a report to the and concepts which were submitted as a report to the Committee on Medical Rehabilitation.

230. The report of the medical sub-committee was as follows:

The sub-committee believes that two of the absolute essentials of rehabilitation are:

1. The patient and the doctor must be convinced

that rehabilitation is necessary and possible.

2. An accurate assessment of the patient's medical state is necessary so that rehabilitation will not be wasted.

231. In order to simplify the problem of assessment, we suggest that illness might be divided into four

(a) Those simple ailments which require no rehabilitation and following which the patient may return directly to his former occupation, e.g., an uncomplicated appendectomy.

(b) Those ailments associated with old age or oc-curring in the aged where it is obviously hope-less to expect any form of rehabilitation to fit the patient for future service to the community and therefore these patients can also return home and do not require rehabilitation.

(c) Those special problems which are of such magnitude as to require a special unit for their adequate rehabilitation—(blindness, paraplegia, tuberculosis, mental illness, arthritis of certain types, some varieties of deafness, spastic paralysis in the adult and other such conditions).

(d) All the remaining patients who are admitted to hospital.

It is obvious that some patients will be difficult to categorize and one group may merge into another. Our first duty would appear to be to train the medical and associated professions to perform adequately this

233. Rehabilitation consists largely of motivating the patient and should start as soon as possible after com-mencement of his illness. We suggest that the responsibility for the patient's rehabilitation rests primarily with the attending physician or surgeon, physiatrists and others, and when called in they should assume joint responsibility with the patient's own doctor. It is the duty of the university and teaching hospitals to present this concept in their teaching.

This problem might be simplified by presenting it as follows: (I) Rehabilitation in University Centres, (a) Teaching General Hospitals, (b) Special Rehabilitation Centres. (II) Large General Hospitals (non-teaching) and Regional Units. (III) Small Hospitals. (IV) Special Disabilities. (V) Children.

I. REHABILITATION IN UNIVERSITY CENTRES

(a) Teaching General Hospitals.

It is recommended that rehabilitation units be established first in university teaching general hospitals. In addition, in order that this process may be carried out economically and efficiently, it would seem wise to construct in close proximity to the teaching general hospital and within its organizational framework, a unit or units which can continue the process either on an in-patient or an out-patient basis.

Should the patient then require prolonged hospitalization for purposes of retraining and rehabilitation, he may be transferred to one of these specially designed lower cost hospital beds, following which he will be referred to the out-patient department and followed

The concept of rehabilitation in teaching general hospitals as outlined above, in addition to providing the best possible facilities to rehabilitate the patient, is designed to train the medical and allied professions in the field of rehabilitation so that doctors, nurses, occupational and physical therapists, social workers, and others who go out into the community will further these aims.

(b) Special Rehabilitation Centre

In addition, following the institution of the above, we recommend the provision of a special unit associated with the university and available to all hospitals within its orbit, designed primarily to deal with the following problems: (i) The long term group of patients. (ii) Geriatric problems which require rehabilitation. (ii) The severely disfigured.

II. LARGE GENERAL HOSPITALS (NON-TEACHING) AND REGIONAL UNITS

The principles and resources in rehabilitation, similar to those described in a teaching general hospital, are necessary for this type of hospital, with the special are necessary for this type of hospital, with the special personnel and facilities required for teaching excluded. This type of unit might be established also on a geographical basis throughout the country to serve populous regions. This regional unit should be associated with a hospital, and available not only to its staff but to the general practitioners in the area. The administration of this centre should be arranged so as to offer every facility and co-operation to the general practitioner.

III. SMALL HOSPITALS

237. For the small hospital we would urge the creation of a section of physical medicine with whatever resources may become available and, in particular, the employment of a qualified occupational physical therapist under the direction of the medical board of the hospital.

IV. SPECIAL DISABILITIES

238. These disabilities include blindness, paraplegia, tuberculosis, mental illness, arthritis of certain types some varieties of deafness, spastic paralysis in the adult and other such conditions.

we recommend that the existing special organizations and centres that have been evolved for the treatment of these profound disabilities should be used to the maximum and where possible every effort should be made to avoid duplication of existing resources where they can be utilized for other allied disabilities. In certain the contract of the cont tain circumstances, it might be necessary to provide new facilities.

V. CHILDREN

- 239. The same principles which have been outlined above for the rehabilitation of adults, apply to children, with special emphasis on education and other details applicable to the young.
- 240. It was moved, seconded, and carried that the Conference receive, with its thanks and appreciation, the report of the sub-committee as approved by the Committee on Medical Rehabilitation and that the full report be incorporated in the proceedings of the Conference. It was further agreed that while limitations of time did not permit of detailed consideration of all points raised in the report, the Conference should go on record as giving its specific approval to the section of the report marked 1(a) and (b) Rehabilitation in University Centres.

(B) RESOLUTIONS OF THE COMMITTEE ON MEDICAL REHABILITATION

241. 1. It was moved, seconded, and carried that the Conference go on record as approving the following:

- (a) The definition of medical rehabilitation includes all those physical and psychological factors which contribute to the restoration of the individual. These factors include diagnosis, treatment and medical evaluation in relation to his previous status, other skills or occupations in order to prepare him physically, mentally, socially and vocationally for the fullest possible life compatible with his abilities and disabilities.
- (b) A primary concept of any rehabilitation programme must be the provision of adequate preventive and curative services for children with congenital or acquired disabilities. Some of the major points for consideration are: (i) Appropriate methods to insure early location and specialist diagnosis. (ii) Adequate facilities for preventive measures and a complete treatment programme which considers the child as a member of a family and the community.
- **242.** 2. It was moved, seconded, and carried that there should be medical supervision in vocational training, selective placement and employment and in the follow-up of employed and unemployed rehabilitants.
- 243. 3. It was moved, seconded, and carried that:
 - (a) The training of physicians, surgeons and specialists should include an appreciation of rehabilitation evaluation and methods; that the training of physiotherapists, occupational therapists, social workers, public health nurses, etc., should include objective methods and appreciation that rehabilitation is team work to restore the injured and crippled to maximum physical and psychological status.
 - and psychological status.

 (b) The term "status" in its present function means all useful work under the following categories:
 (i) placement in competitive employment; (ii) selective placement; (iii) sheltered employment; (iv) home duties and activities and/or self care and services for children.
- 244. 4. It was moved, seconded, and carried that ways and means, particularly in the way of bursaries, be made available for the further training of undergraduates and graduates of those professional disciplines concerned with rehabilitation.
- 245. 5. It was moved, seconded, and carried that financial assistance through the Federal Hospital Construction Grant should be made available for the construction and equipping of special rehabilitation facilities including rehabilitation centres.
- 246. 6. It was moved, seconded, and carried that: (a) The medical profession has a responsibility for the prescription of, standards of, and supervision and training in the use of prostheses. (b) Whereas prostheses are a necessary part of treatment, provision of prosthetic appliances should be considered an integral part of medical treatment and where necessary they should be supplied from public funds. Prostheses include any type of appliance or aid necessary to the rehabilitant.
- 247. 7. It was moved, seconded, and carried that every effort should be made to co-ordinate rehabilitation facilities and other rehabilitation services on local, provincial and national levels.
- 248. 8. It was moved, seconded, and carried that there should be a Federal-Provincial programme to provide funds on a shareable basis and administered provincially to foster, provide and purchase services as the provincial government sees fit through public, voluntary or other agencies.
- 249. 9. It was moved, seconded, and carried that the Federal General Public Health and Public Health Re-

search grants be interpreted as covering appropriate research in medical rehabilitation.

- 250. 10. It was moved, seconded, and carried that sufficient monies be made available through the National Research Council for fundamental medical research in rehabilitation.
- 251. 11. It was moved, seconded, and carried, that this Committee go on record as expressing the hope that this Conference would be reconvened annually.

In speaking to Dr. Jousse's report, Dr. G. D. W. Cameron said he wished to thank Dr. Jousse for his assistance to the Department of National Health and Welfare. He stated that his Department is using the recommendations made by Dr. Jousse's Committee.

Adopted.

REPORT OF THE HONORARY TREASURER

Mr. Chairman and Members of General Council:

252. I beg to submit the financial report for the year ending December 31st, 1953, as audited by Messrs. McDonald, Currie and Company, together with comments on unusual items.

ASSETS

As at December 31st, 1953, the total assets of the Association were \$442,899. These may be divided as follows:

Marketable Securities (Trust Funds)	84,550
Total	\$443,899

REVENUE AND EXPENDITURE

Contrary to expectations (as per the Budget for 1953), expenditures for the year 1953 were only about \$20,000 in excess of the year 1952. Your Budget Committee was instructed to make provision for certain major expenditures during 1953 which did not materialize until 1954. These included:

Assistant Editor and Secretarial Assistance	\$10,000
Assistant Secretary and Stenographical Help	10,000
Public Relations Officer	10,000
Hospital Standardization	
Ten percent increase in cost of office,	•
travel, etc.	20,000

\$63,000

This anticipated increase in expenditure was expected to be covered by the raising of the annual dues to \$20. The actual increase in revenue from Membership Fees amounted to \$79,000. It is therefore apparent that these expenditures, if they had been made in 1953 as they have for 1954, justified the action of Council in raising the annual dues to members of the Canadian Medical Association.

It is gratifying to report that the Journal showed a profit of some \$36,300, in spite of substantial increases in the printing costs over the year 1952. Other items showed no material change.

In accordance with the instructions of the Executive Committee that the major part of the unexpended surplus for the year 1953 be set aside to cover possible deficits during the introductory years when the Journal publication is placed on a semi-monthly basis, a Contingency Reserve in the amount of \$100,426 has been set up. According to rough estimates which have recently become available for the semi-monthly publication of the Journal, it seems apparent that the Contingency Reserve, which represents the balance for the year 1953,

will be in a large part used up during the first three years. The estimates would seem to reflect the wisdom of the Executive Committee in making provision for the anticipated costs to be incurred in this connection.

INVESTMENTS

In accordance with instructions of the Executive Committee that certain investments in Dominion of Canada bonds be sold, provided this could be done to advantage, and the proceeds be reinvested in bonds bearing a higher rate of interest, we beg to report the following changes in the General Fund:

Sold

-\$11,800 Dominion of Canada 3% 1957
- 35,000 Dominion of Canada 3% 1960
- 2,000 Dominion of Canada 3% 1966

-\$15,000 Quebec Hydro 4%\1962 - 5,000 Quebec Hydro 3% 1971 - 5,000 Province of Quebec 3% 1965 - 1,000 Province of Ontario 4% 1961 - 17,000 Hydro of Ontario 4\% 1967 Bought

5,000 Hydro of Ontario 3% 1965 With the authority of the Executive Committee and the approval of the Financial Advisory Committee, the surplus for the years 1951 and 1952 was invested as

-\$15,000 Bell Telephone 4½% 1967 - 10,000 Hydro of Ontario 4¼% 1967 Bought

In connection with the Reserve for Contingency fund against possible losses in 1955, the Executive Committee instructed the Honorary Treasurer to invest approximately \$65,000 for this purpose, and in November 1953 the following purchase was made:

Bought -\$65,000 Government of Canada 21/4% 1955

The Salary and Retirement Allowance Fund was further augmented in 1953 by the following:

-\$6,000 Quebec Hydro 4% 1962 - 600 Government of Canada 3% 1966. Bought

There were no changes made in the following Trust Funds:

> Osler Oration Fund Lister Oration Fund Osler Scholarship Fund Blackader Lecture Fund F. N. G. Starr Memorial Fund Cancer Fund

All of which is respectfully submitted.

EDWARD S. MILLS, Honorary Treasurer.

NEW BUSINESS

Moved by Dr. R. M. Mitchell, seconded by Dr. M. C. Harvey,

That Council direct the Executive Committee to pursue actively with the Department of National Revenue, either alone or in conjunction with other professional bodies

(a) The allowance of tax exemptions for the purchase of pensions or annuities by self employed professional individuals.

(b) Allowances for capital depreciation of education and postgraduate educational expenses by members of professional groups.

Carried.

Moved by Dr. M. C. Harvey, seconded by Dr. G. I. Sawyer,

THAT Council direct the Executive to appoint a special committee to consider and make recommendations concerning the following, namely:

1. Divisional representation on the Executive Committee.

 Limitation of continuous service of (a) Elective Officers (Chairman of Council; Honorary Treasurer); (b) Representatives from the Divisions to the Executive Committee.

3. The precedent of having the host Division nominate the President-Elect.

4. Status of conjoint meetings (organization, financial, entertainment, etc.) (a) C.M.A. with host Division. (b) C.M.A. with sister organizations such as B.M.A., A.M.A.

In speaking to this resolution Dr. Harvey pointed out that the attendance at the Annual Meeting was becoming so great that some Divisions were unable to accommodate a meeting because of the limited hotel and meeting facilities. It would be unfortunate because of such circumstances if some Divisions should lose the privilege of being hosts to Annual Meetings and naming the President-Elect.

Moved by Dr. L. J. Shepley, seconded by Dr. H. T. Ewart,

> THAT in future Reports to Council, there be included with each Committee report, the names of the members of these Committees and of Nucleus Committees where applicable.

The Committee on Resolutions was then dissolved by the Chairman who expressed his thanks for the excellent duty that this Committee had performed.

Moved by Dr. E. K. Lyon, seconded by Dr. G. I. Sawyer,

THAT the Chairman, Dr. Gosse, and Dr. Turnbull who had chaired the Committee of the Whole, be congratulated for their fine work.

Carried.

Appreciation to British Columbia Division

Moved by Dr. H. T. Ewart, seconded by Dr. C. W. Burns,

> THAT a motion of appreciation be inscribed in our minutes for the excellent work of Dr. and Mrs. Strong and their associates who made this Annual Meeting such a great success.

Dr. Routley, newly elected President-Elect, was asked to address the members. He said that he deemed it a very great privilege and a great honour to have been chosen President-Elect of the Canadian Medical Association. He wished to thank his colleagues from the Ontario Division who put forward his name for election. He was happy to think that he would still be in a position to continue to work for Canadian Medicine.

Moved by Dr. R. Vance Ward, seconded by Dr. H. T. Ewart,

> THAT all business arising from the proceedings of General Council until the next meeting of Council be left to the decision of the incoming Executive Committee.

Moved by Dr. J. F. C. Anderson, seconded by Dr. R. W. Richardson,

> THAT the General Secretary be instructed to thank the many people, organizations and institu-tions who contributed to the success of the meeting.

The meeting of the General Council adjourned at 4.45 p.m., Tuesday, June 15.